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THE ARTIST AS PRODUCER

The Artist

as Producer

Russian Constructivism in Revolution

Maria Gough

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In memory of my father

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PREFACE AND ACKNOWLEDGMENTS

> The question is no longer whether the suprematist image is a better or more beautiful image than the impressionist image; rather the question is whether the image as such can continue to supply us with an accepted, fruitful area of work. The image itself is in crisis—not because a couple of painters thought this up but because the modern individual has experienced changes in intellectual structure that alienate one from the image. The image is an aesthetic matter whereas what the radical artists of all nations want is to lend immediate form to reality itself. . . . Soviet Russia was the first to recognize the possibilities inherent in this great new goal and give it free rein.
>
> ADOLF BEHNE, on the *Erste Russische Kunstausstellung* (Berlin, 1922)

As the co-editor of an exciting new series of books on contemporary art—the Bauhausbücher of the 1920s—László Moholy-Nagy proposes that the first book focus on Constructivism, a phenomenon initially developed in Soviet Russia, but at the time proliferating also in Europe and Japan, both engaging and confounding those encountering it. In a December 1923 letter to Moscow, he invites Aleksandr Rodchenko—one of Constructivism's original and key practitioners—to author the proposed book. Moholy-Nagy explains that the term "Constructivism" is now frequently used by germanophone artists, but that few genuinely understand its meaning or significance. Reluctant to trust the testimony of Russian artists living in Germany, such as El Lissitzky and Naum Gabo, the editorial board wants the Constructivist story straight from the horse's mouth.

How, I have often wondered, would Rodchenko have approached the task had he accepted Moholy-Nagy's invitation? Given the rapid accumulation of competing claims on Constructivism by artists in Russia and abroad—in 1924 the De Stijl artist Theo van Doesburg notes the existence of at least eight Constructivist magazines—what problems, objects, artists, institutions, programs, terminologies, events, exhibitions (or industries, factories, trusts, and

cooperatives, for that matter) would Rodchenko have included in the inaugural Bauhausbuch on Constructivism? And what would he have excluded? I raise this imponderable not to second-guess the artist's judgments, but rather to broach an essential caveat of the present study: that every history, whether primarily speculative, polemical, critical, positivist, or archaeological in orientation, inevitably leaves out more than it chronicles.

The place and time of this book is Moscow in the early 1920s. Most of its action and argument occurs in and around the city's Institute of Artistic Culture (Institut khudozhestvennoi kul'tury; INKhUK), an interdisciplinary research center in which Constructivism—now widely acknowledged as the major innovation of the revolutionary period—first materializes as a set of self-consciously articulated theories and practices. Its chief protagonists are the seven original members of the institute's Working Group of Constructivists (Rabochaia gruppa konstruktivistov), along with four of its theoreticians. Proceeding more or less chronologically, this book offers a new account of the Constructivists' laboratory experimentation and their paradigmatic shift into industrial production, suggesting that what these artists and theoreticians share as a group is less a set of formal procedures or political imperatives per se than an unrelenting drive to determine the role and efficacy of the vanguard artist in revolution.

Focusing on a single—though without doubt the single most important—hotbed of Constructivist activity, rather than attempting a broad survey of its every manifestation, has a number of distinct advantages. Most immediately, it allows me to undertake an almost archaeological reconstruction of a particular set of Constructivist objects—not only physical artifacts, but also lexical inventions, theoretical principles, and polemical tracts—in an effort to explicate the meanings inscribed in these objects but not immediately legible in them. For a variety of reasons, such close reading has not played a vital role in the study of Constructivism to date, but seems to me essential in order to bring its often difficult objects into focus for the contemporary viewer. This process of reconstruction enables, in turn, a mapping of a range of Constructivist positions within the original group. By foregrounding this relational field, it becomes possible to move previously marginalized figures out of the historiographically constituted backyards and low haunts of history—to borrow an expression from Iurii Tynianov—and into its front parlor. Ultimately, a new story of Constructivism emerges, one that challenges the existing historiography with respect to three critical problems that inevitably arise in discussions of this extraordinary phenomenon: formalism, functionalism, and failure.

This story of Constructivism was written in the wake of the archival revolution of the 1990s. Like much recent scholarship on the cultural life of the former Soviet Union, it has benefited not so much from the declassification of sensitive documents as from the more liberal archival access granted researchers during the post-Soviet period. Given Constructivism's contestation of the traditional division of art, labor, and technology into discrete, mutually exclusive fields of research, this policy shift has played a key role in my research. Instead of being confined to the state and private repositories pertaining to my specific dis-

ciplinary specialization—the history of art—I was able also to draw upon unpublished materials preserved in city, regional, and state archives dedicated to the history of Soviet industry, technology, urban planning, and labor relations. Perhaps most important of all for this particular story of Constructivism was access to the chandeliered and carpeted reading room of the former Moscow Party Archive (now the Central State Archive of Social Movements of the City of Moscow; Tsentral'nyi gosudarstvennyi arkhiv obshchestvennykh dvizhenii g. Moskvy)—notoriously inaccessible to foreign scholars in the past.

While archival research has been indispensable, the role of empirical detail in this book is somewhat heterodox: such detail is invoked chiefly to help narrate the conceptual problems prompted by a given object rather than to assist in the construction of a massive historical context into which such an object might be inserted for translation. This approach stems most fundamentally from a conviction that the meaning and significance of the Constructivist object is not exhausted in, or saturated by, the present of its production. Doubtless, it also has something to do with the path by which I came to Constructivism—from a comparative and critical study of the international avant-gardes of the 1910s and 1920s rather than from the history of Russian art as an isolated field. Accordingly, this book is intended not only for students and specialists of the Russian and Soviet avant-gardes, but also for scholars interested in the comparative study of modernism in all its historical specificities.

Many individuals and institutions have had a hand in the making of this book. Foremost, I wish to thank Yve-Alain Bois, most gifted and steadfast of advisors, whose intellectual guidance and unflagging support, first at Johns Hopkins University and then at Harvard University, contributed immeasurably to the dissertation upon which this book is based. For their brilliant and inspiring example, then as now, I owe much also to Elizabeth Cropper, Michael Fried, and Judith Butler. For the extraordinary intellectual communities, research resources, and financial support of both Hopkins and Harvard, I am most grateful.

A Paul Mellon Fellowship from the Center for Advanced Study in the Visual Arts at the National Gallery of Art in Washington, D.C., enabled me to reside for two years in Moscow, travel in the former Soviet Union, and then spend a year in residence at the Center. A Russian Language Institute Fellowship at Bryn Mawr College funded summer language study, and a travel award from the American Council of Teachers of Russian took care of many practicalities. My revision of the manuscript was supported by a J. Paul Getty Postdoctoral Fellowship, and by a Clark Fellowship in the Division of Research and Academic Programs at the Clark Art Institute in Williamstown, Massachusetts. Grants from the Office of the Provost and the Office of the Vice President for Research at the University of Michigan, as well as generous leave, were also crucial.

The kindly staff of numerous archives, museums, and libraries ably assisted my research, while many scholars, artists, and writers generously shared with me their knowledge of Constructivism and related matters. In Moscow, I thank especially Natal'ia Adaskina, Marina

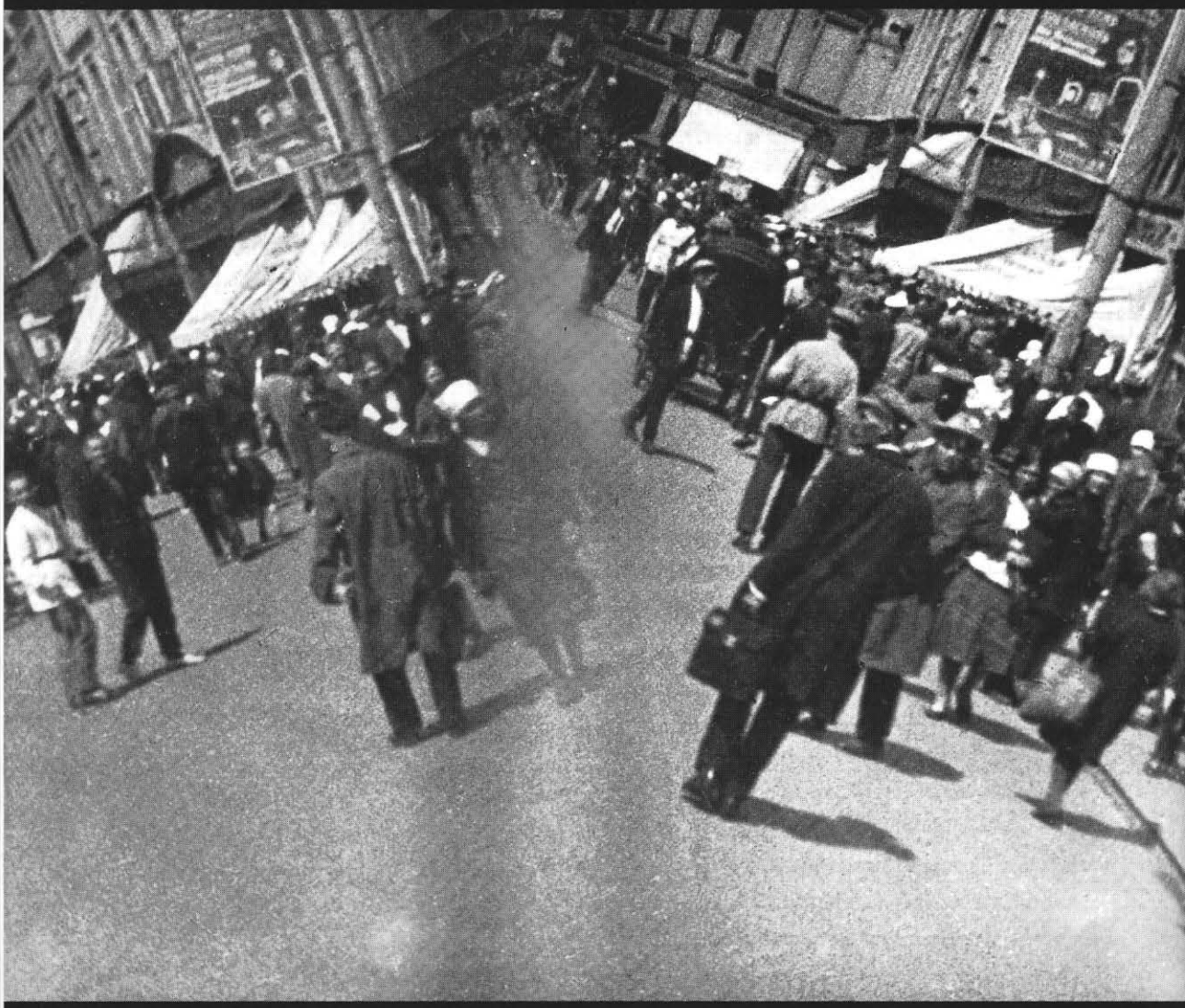
and Aleksei Dunaev, Selim Khan-Magomedov, Viacheslav Koleichuk, Andrei Kovalev, Aleksandr Lavrent'ev, Aleksandra Shatskikh, and Elena Sidorina; in Penza, Dmitri Dimakov; and in St. Petersburg, Irina Arskaia. For their guidance and hospitality in Riga and Cesis, I am greatly indebted to the late Erna Berkholce, Irēna Bužhinska, Valdis Celms, Astrida Peka, Jurgis Skulme, and Tat'iana Suta. Irēna Bužhinska, Iana Markov, and Edita Simonova translated key Latvian documents into Russian for me. In Athens, I would like to thank Anna Kafetsi and Aliki Kostaki for their gracious assistance with respect to the Costakis drawings. For patiently responding to questions pertaining to their own areas of expertise, I thank also Peter Kohane, Daniel Schodek, Elliot Sivowitch, and David Veblen—historians of modern architecture, structural engineering, electricity, and crystallography, respectively. At the eleventh hour, I had the good fortune to learn much from Kenneth Snelson; had I approached him earlier in the process, the shape of one part of the book might have been somewhat different.

While I was learning how to write this book, Rosamund Bartlett, Yve-Alain Bois, Norman Bryson, Eduardo Cadava, Harry Cooper, Karin Cope, Leah Dickerman, Jodi Hauptman, Pamela M. Lee, Kelly Miller, and Eben Wood generously stole precious time from their own work in order to read all or parts of the manuscript; their insights and criticisms have proved invaluable, as have those of four anonymous reviewers for the University of California Press. In the home stretch, Karin and Jodi returned for a second round of incisive and imaginative editorial interventions, giving me the courage to push the manuscript over the finish line. My debt to both is without limit. Many other colleagues and friends have also encouraged or assisted my work in fundamental ways, especially Golfo Alexopoulos, Jean-François Allain, Roger Benjamin, Matthew Biro, Benjamin H. D. Buchloh, Stephen J. Campbell, Jean-Pierre Criqui, Ed Dimendberg, Hal Foster, Hubertus Gassner, Johan Grimonprez, Michael Ann Holly, Konstantinos Ioannidis, Alice Jarrard, David Joselit, Christina Kiaer, Joseph Koerner, Juliet Koss, Rosalind Krauss, Karen Lang, Howard Lay, Christina Lodder, Robert Maxwell, Christine Mehring, Stephen Melville, James Meyer, Hank Millon, Keith Moxey, Molly Nesbit, Peter Nisbet, Alexander Potts, Peter Roberts, Angelica Rudenstine, Elizabeth Sears, Yvonne Shafir, Patricia Simons, Kathryn Smith, Anne Summerscale-Fried, Veerle Thielemans, Mariët Westermann, and Anthony White. A very special debt is owed to all my wonderful former colleagues and students at the University of Michigan.

At the University of California Press, I am most grateful for the expertise and patience of my editor, Deborah Kirshman, project editor Sue Heinemann, manuscript editor Jennifer Knox White, designer Sandy Drooker, and production coordinator John Cronin. A timely Publication Subvention from the University of Michigan assisted with the gathering of permissions and reproductions by the ever-resourceful Alexandra Schwartz. At various stages, Jeri Hollister, Davey Hubay, and Sandra Seekins provided crucial assistance with illustrations.

As anyone who lived in Russia immediately following the collapse of the Soviet Union

can attest, researching one volatile historical period while living in the midst of another was not always easy; much is owed, therefore, to Angelina Panova and Rostislav Egorov, who made my years in Moscow not only possible, but also an extraordinary, unforgettable adventure. Over many years, Yvonne, Stephen, Karin, Leah, Golfo, Jodi, Mariët, Pam, and Juliet have helped in myriad ways to make the United States a second home—no greater gift of love and friendship can I imagine. Without the love, patience, and generosity of my family in Melbourne—my late father, James, my mother, Naomi, and my brothers, Richard, John, James, and Stephen—this book would never have been started, let alone completed. Finally, in a category quite his own, is my beloved supermono champion and omnipresent enthusiast, Jeffrey T. Schnapp. To all, my deepest gratitude, and more.



1 Still from *Man with a Movie Camera (Chelovek s kinoapparatom)*, dir. Dziga Vertov, 1929. The Museum of Modern Art/Film Stills Archive, New York.

Introduction

MADE IN MOSCOW

> In schematic form, Moscow, as it appears at this very moment, reveals the full range of possibilities: above all, the possibility of the revolution's utter failure and of its success. In both instances, however, there will be something *unforeseeable* whose appearance will be vastly different from any programmatic painting of the future.
>
> WALTER BENJAMIN, letter to Martin Buber (1927)

Upon his return from the Soviet Union in early 1927, Walter Benjamin draws a portrait of Moscow for Martin Buber's Berlin journal *Die Kreatur.* In this portrayal, the dominant feature of the city's physiognomy is not a particular building or place, but rather a passion—a "ruling passion"—for experimentation: "Each thought, each day, each life lies here as on a laboratory table. And as if it were a metal from which an unknown substance is by every means to be extracted, it must endure experimentation to the point of exhaustion. No organism, no organization, can escape this process." An immediate consequence of this unrelenting desire to extract the unknown, Benjamin explains, is a vastly accelerated pace of topographical and administrative metamorphosis: "Employees in their factories, offices in buildings, pieces of furniture are rearranged, transferred, and shoved about. . . . Regulations are changed from day to day, but streetcar stops migrate, too. Shops turn into restaurants and a few weeks later into offices."[1] Experimentation is not a process sequestered in a laboratory, but rather pervades every aspect of daily life in Soviet Moscow.

Woven into—and by—this laboratory of a city is Constructivism, the most groundbreaking development in the visual arts in the Soviet Union in the decade or so following the October Revolution of 1917. Like the ever-shifting terrain in which it develops, Constructivism is similarly driven by a ruling passion for experimentation. Over the course of the early 1920s, it puts on the laboratory table one problem after another—composition, construction, excess, *faktura,* tectonics, economy, modularity, purpose, structure, function,

production, process, the object, and, most fundamentally of all, the artist's right to exist—as if each of these problems were a metal from which an as-yet-unknown substance could be extracted. Constructivism's successive laboratory operations take place in works of art—chiefly understood as demonstration, or even conversation, pieces—and in the entangled oral and written exchanges between its practitioners. At times, these operations appear, especially in retrospect, as instantiations of an internal process cloistered from the incursions of everyday life, but that perception is illusory—there is nothing pristine about the conditions within which Constructivism invents and reinvents itself, conditions at once methodical and manic, continually informed and reinformed by the protean policies and machineries of the fledgling Russian republic.

This book tells the story—a story—of Constructivism's emergence, development, and dénouement in Moscow between 1920 and 1926. Among its chief protagonists is Karlis Johansons (1892–1929; fig. 2), a Latvian sculptor who graduates from the Riga City School of Art (Rīgas pilsētas mākslas skolā) just before the outbreak of the First World War. War, military service, revolutions, demobilization, and a desire to experience firsthand the cultural riches of the new Russian capital—"I want so much to spend a couple of months in Moscow," he writes[2]—bring this artist to the city, where he Russifies his name to Karl Ioganson. In a photograph taken at the Kremlin shortly after his arrival in summer 1918 (fig. 3), Ioganson poses playfully in Lenin's Model-T Ford, along with some fellow Latvian artists, including the later-renowned photomonteur Gustav Klucis—all members of a detachment of Latvian machine gunners appointed to guard the Kremlin after Lenin's transfer of the Russian capital to Moscow in March 1918.

It is not, however, in the company of his compatriots that Ioganson soon emerges as one of the pioneers—"forefathers" *(rodonachal'niki)* is the word he uses[3]—of Constructivism, but rather in concert with the Russian artists Aleksandr Rodchenko (1891–1956) and Varvara Stepanova (1894–1958), both former students of the Kazan' School of Fine Arts (Kazanskaia khudozhestvennaia shkola) who arrive in Moscow just a few years earlier than Ioganson, in 1915 (fig. 4). Of Constructivism's leading characters, Rodchenko and Stepanova are the two perhaps most familiar to art historians, but essential to Constructivism's story are also three very young artists, all born in Moscow and former students of both the city's Stroganov School of Applied Art (Stroganovskoe khudozhestvenno-promyshlennoe uchilishche) and its First State Free Art Studios (Pervye gosudarstvennye svobodnye khudozhestvennye masterskie; SVOMAS I): Konstantin Medunetskii (1900–ca. 1934; fig. 5) and the Swedish-Russian brothers Georgii (1900–1933) and Vladimir Stenberg (1899–1982; fig. 6). Last, but not least, among this group of "forefathers" is Aleksei Gan (1893–1942), better known as a theoretician of Constructivism but also numbering among its practitioners (fig. 7). In March 1921, these seven formally announce and document themselves as the Working Group of Constructivists (Rabochaia gruppa konstruktivistov; fig. 8).[4]

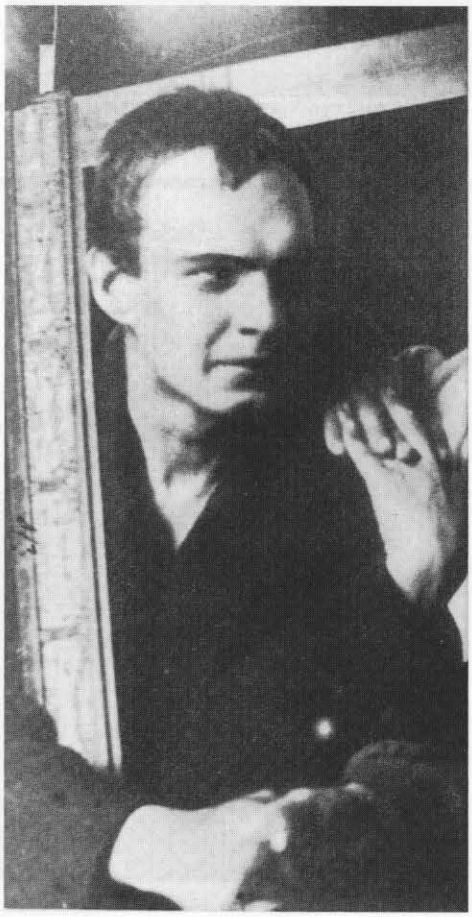
Before the year is out, others would come on board as Constructivism's energetic apologists: notably, two art historians and critics, each active in the association of proletarian

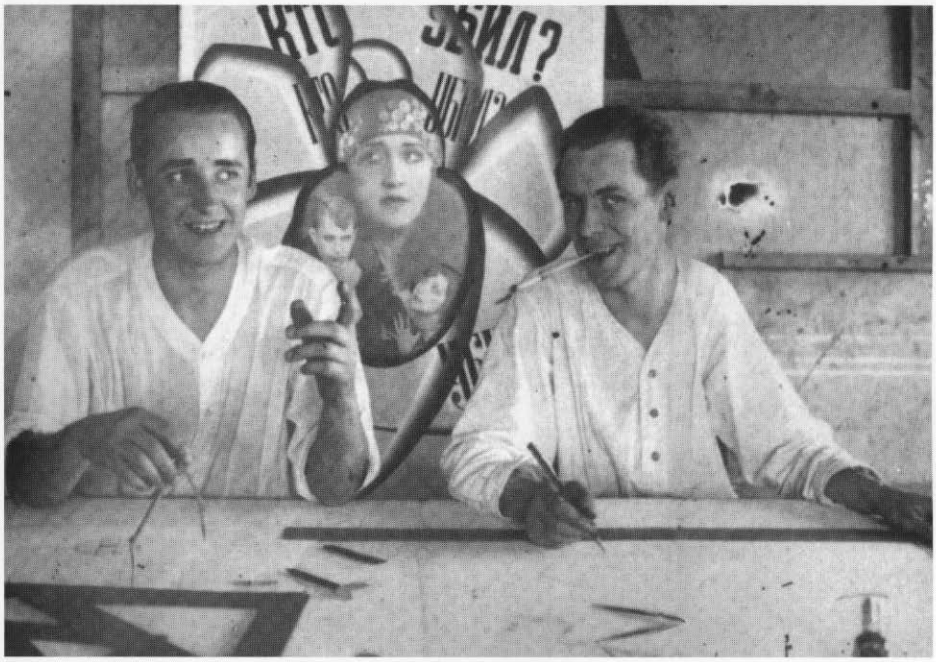
2 Karl Ioganson (Karlis Johansons). Moscow. ca. 1922. Photograph courtesy of Erna Berkholce, Cesis.

3 Karl Ioganson, Voldemars Andersons, Kārlis Veidemanis, and Gustav Klucis at the Kremlin in Lenin's Model-T Ford. Moscow. Summer 1918. Latvian Museum of War, Riga, f. Andersons, inv. no. 9083/4514 f. Photograph courtesy of Erna Berkholce, Cesis.

4 Aleksandr Rodchenko and Varvara Stepanova. Moscow. 1923. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

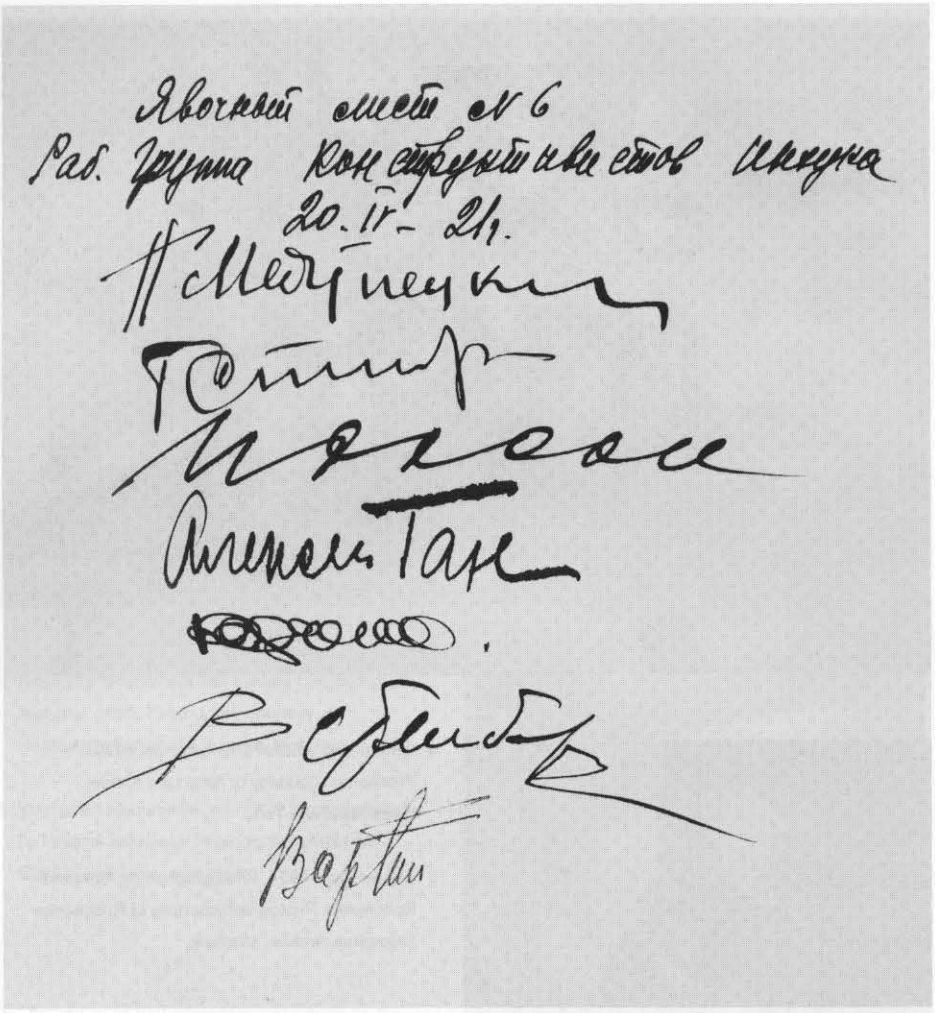
5 Konstantin Medunetskii. ca. 1920. Photographed by Vladimir Stenberg. Photograph courtesy of Galerie Jean Chauvelin, Paris.





6 Georgii and Vladimir Stenberg. ca. 1920. Photograph courtesy of Alma Law Archive, Scarsdale, New York.

7 Aleksei Gan. 1924. Photographed by Aleksandr Rodchenko. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

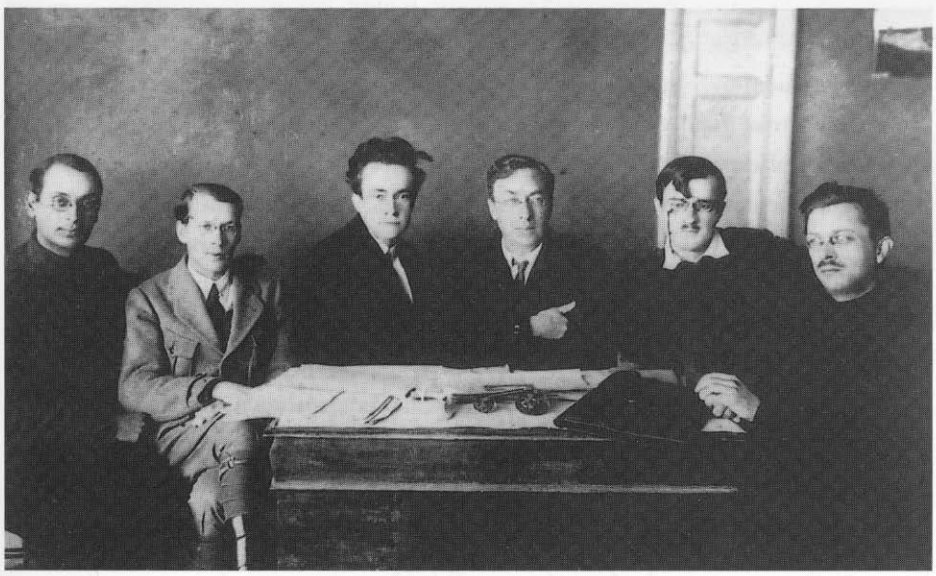


cultural organizations, Proletkul't: Nikolai Tarabukin (1889–1956; fig. 9), whose initial theoretical interests range from the Russian icon to modern painting, and Boris Arvatov (1896–1940), a brilliant young Marxist cultural theoretician. In the defense of Constructivism, they are joined by two already well-established literary critics—Osip Brik (1888–1945) and Boris Kushner (1888–1937)—both founding members in 1916 of the Petrograd Society for the Study of Poetic Language (Obshchestvo izucheniia poeticheskogo iazyka; OPOIAZ), a formalist research circle, and in 1919 of Komfut (Communists and Futurists; Kommunisty-futuristy), an alliance organized in opposition to the increasingly Fascist-aligned Italian Futurists. By 1921, Tarabukin, Arvatov, Brik, and Kushner are all living in Moscow and performing numerous roles within the administrative machinery of the new republic. In the early 1920s, all these figures—*praktiki* and *teoretiki* alike—are members of a state-funded, interdisciplinary research center for the arts in Moscow, the Institute of Artistic Culture (Institut khu-

8 Signatures of the Working Group of Constructivists of the INKhUK (meeting of April 20, 1921): K[onstantin] Medunetskii, G[eorgii] Stenberg, [Karl] Ioganson, Aleksei Gan, [Aleksandr] Rodchenko, V[ladimir] Stenberg, Varst [Varvara Stepanova]. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

9 Nikolai Tarabukin. Early 1930s. Photograph courtesy of Marina and Aleksei Dunaev, Moscow.

10 Vasily Kandinsky (third from right) and other members of the INKhUK. Moscow. ca. 1920. Photograph from *L'Avant-garde russe: Chefs d'oeuvre des Musées de Russie* (Musée des Beaux-Arts de Nantes, 1993).



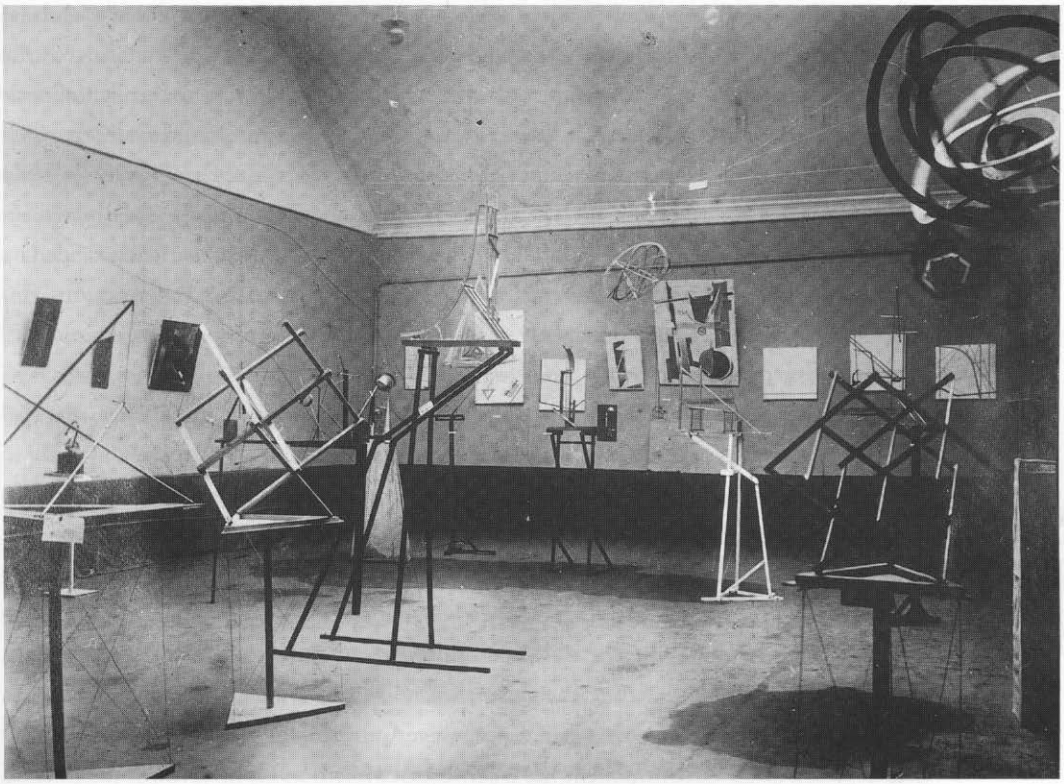
dozhestvennoi kul'tury; INKhUK—established in 1920 under the authority of the People's Commissariat of Enlightenment (Narodnyi komissariat prosveshcheniia; Narkompros), the Bolsheviks' new administrative organ for cultural and educational matters. The well-known painter Vasily Kandinsky, who returned from Germany after the outbreak of the First World War, is appointed as the institute's first director (fig. 10).

What motivates the Moscow Constructivists' unrelenting drive to experiment? In the broadest possible sense, it is their overall desire—equally unrelenting—to find an answer to the following question: What is the role and efficacy of the vanguard artist in revolution? By revolution, I refer not only to the crucial events of October 1917 and their immediate aftermath, but even more to the ongoing process of shoring up the historical import of those events against the manifold uncertainties of both the Civil War (1918–21)—in which Bolshevik victory was by no means assured—and the New Economic Policy (NEP; 1921–28), with its partial return to a market economy. For the Constructivists, the question of their role and efficacy has tremendous urgency, given that the essentially bourgeois conception of the artist with which they came of age—the artist defined as an individual committed to the expression of self—is now under extraordinary pressure, if it is not simply rejected altogether. This question is given further urgency by the Constructivists' commitment to the struggle to abolish the division of mental and manual labor—a struggle that tends to undermine the vanguard artist's traditional and exclusive claim on the realm of radical cultural production. In the decade after the October Revolution, then, the very identity of the avant-garde artist—a category originally formulated nearly a century or so earlier in France—is itself on the laboratory table.

The unrelenting way in which the Moscow Constructivists tackle their self-critical enterprise, and the variety of solutions they propose, is most dramatically registered in the fact that, in the early 1920s, there are (at least) two Constructivisms. The first, comprising a body of work produced over the course of 1920–21, constitutes an extreme intensification of a broadly modernist inquiry into the notion of art as primarily a mode of production rather than a mode of expression. Predominantly abstract, though not exclusively so, this Constructivism is best exemplified by an exhibition held in Moscow from May to June 1921, the *Second Spring Exhibition of the OBMOKhU* (*Vtoraia vesenniaia vystavka OBMOKhU;* fig. 11), which announces one of the major results of the Constructivists' laboratory experiment—the advent of the spatial construction *(prostranstvennaia konstruktsiia).*

The second Constructivism emerges in April 1921, but only becomes fully fledged in the fall of that year. It consists of a demand, made by the very same group of practitioners, that the Constructivists abandon their inquiry into the nature of art as a mode of production and enter the realm of industrial production itself: Henceforth, the artist is "to set about real, practical work in production."[5] In choosing to shape not the materials of art but rather the "very stuff with which people live their everyday lives,"[6] the Constructivists set out to reject all "experimental activity divorced from life."[7] In the Soviet factory, it is believed, the Constructivist will overcome art's putative autonomy within the organization of social life. The making of forms of art now deemed obsolete *(izzhityi)*—which includes the "bourgeois individualist" arts of painting, sculpture, and, increasingly, the spatial construction—is given the pejorative appellation "easelism" *(stankovizm).*[8]

Constructivism in the early 1920s is thus riven—but also, therefore, united—by a "radical break" articulated in terms of a totalizing shift from the realm of the "aesthetic" to that



11 View of *Second Spring Exhibition of the OBMOKhU* (toward south and west walls). 11 Bol'shaia Dmitrovka, Moscow. May–June 1921. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

of the "real." Although considerable skepticism has been voiced in the last several decades with regard to the positing of radical breaks, epistemological shifts, and other ruptures of great magnitude, such skepticism is not warranted here, for in its localized practices and theories, Constructivism is fundamentally ruptured: All the Moscow Constructivists abandon easelism altogether after November 1921, with several also managing to enter, to varying degrees, into industrial production. Others, most notably Rodchenko, reconfigure Constructivism's productivist platform in compelling new ways in the mid- and late 1920s, chiefly through recourse to photographic practices, as Benjamin H. D. Buchloh, Leah Dickerman, and Hubertus Gassner, among others, have demonstrated.[9]

Historiographically speaking, one could not speak of two (or more) Constructivisms without Christina Lodder's groundbreaking 1983 book, *Russian Constructivism,* the extensive breadth of which is matched only by the unprecedented depth of its archival research. Prior to the appearance of Lodder's history of Constructivism, the western literature on the subject had tended to focus exclusively on the laboratory period. This it more or less reduced

to a pseudomorphology—a set of shared stylistic features (such as geometric clarity, abstract volume, economy of material, and surface homogeneity)—which it then reposited as the foundation for something like an international Constructivist tradition. In explicit opposition to this tendency, Lodder sought to document and analyze the profound extent to which *Russian* Constructivism was premised, by contrast, on the rejection of exclusively aesthetic deliberations for the sake, instead, of radically new utilitarian objectives: Constructivism, she writes, is a "functional aesthetic." The "formal language" of this aesthetic is provided by the pre-revolutionary counter-reliefs of Vladimir Tatlin and others, while the laboratory constructions constitute a transitional phase of "technologically inspired formal exploration."[10] Lodder's historical account frankly posits the productivist period as not only Constructivism's crucial achievement, but also as the very locus of its political specificity. This is what distinguishes it from its international correlatives and legacies.

That the Constructivists themselves may have prognostically or retrospectively dismissed their own laboratory work raises a difficult methodological issue. While the present book is premised on the conviction that Constructivist theory is a form of Constructivist practice, and thus very often draws upon such theory, I believe that it is sometimes imperative for the historian to loosen a little the grip of the performative language of the manifesto-statement (here invoked in the sense of the latter genre's inadmissibility to evaluation), in order to take advantage of the knowledge that distance, however provisionally, can afford. Put bluntly: The negation of an earlier moment has a constitutive function for an artist in the thick of struggling to produce his or her next move, but an historical and evaluative mode of inquiry—such as I am attempting here—has a somewhat different set of responsibilities.

Rather than adopting a proleptic glance wherein the laboratory period is but a preliminary to a productivist Constructivism, the first half or so of the present book is committed to taking up that extraordinary endeavor at its own pace in an attempt to reconstruct its own rules of functioning, thereby shedding new light upon its much-neglected meaning and significance. I propose that in the body of hermetic drawings and spatial constructions produced between 1920 and 1921 we find the Constructivists' earliest investigation of the problem of the artist's role and efficacy within the new state—precisely where we might least have expected to find evidence of such an inquiry. In their laboratory work, I argue, the Constructivists propose and contest various ways of shaping a mandate for artistic production that would fulfill the ambitions of the revolutionary state by eradicating marks of individual authorship—and hence, they would come to believe, subjectivity—from the work of art.

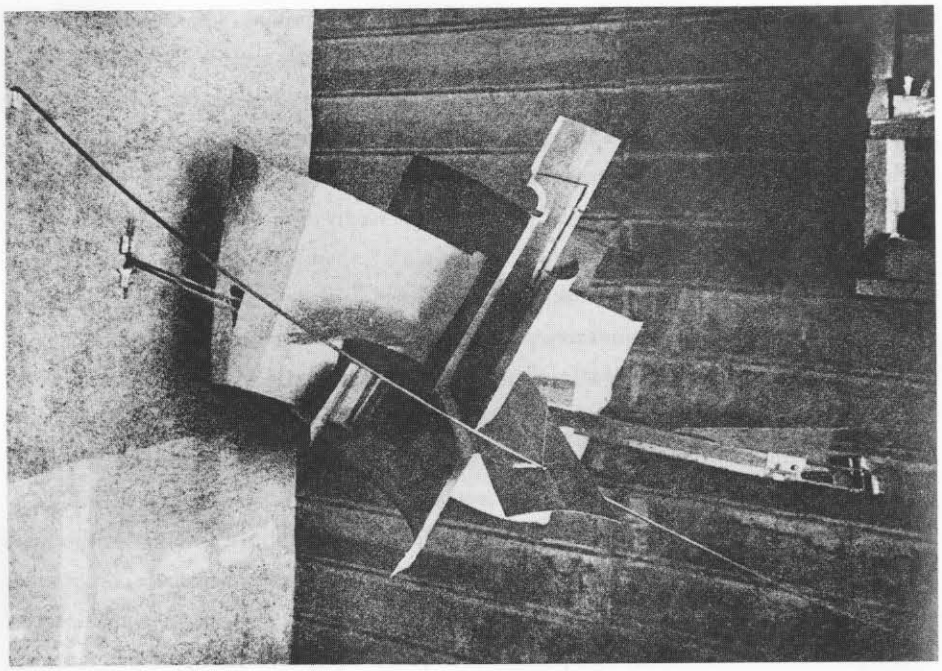
Before delineating the main contours of my argument, I would like to make plain the mechanism of its production. Through a reconstruction of the laboratory object's rules of functioning—or the rhetoric of the technology of its making—I endeavor to explicate the meanings that are inscribed in that object, *made* in that object, but which are not immediately legible in it. The point of such close attention is not to restore some putative referent, but to reconstruct or re-present what Roland Barthes calls the object's very intelligibility[11]—

or what I often think of as the making palpable of its mode of thinking. The inherent difficulty of doing so is compounded by the laboratory object's frequently recalcitrant and even, as it were, unloving demeanor. (Its tendency to turn away, or otherwise resist its remaking by the viewer, is partially responsible, I believe, for its overall neglect in the literature.) Notwithstanding this difficulty, such reconstruction is the fundamental basis for my argument, providing as it does evidence of a *range* of positions, or a newly differentiated field, within laboratory Constructivism itself.

The two bodies of laboratory work examined in the initial chapters of this book are, first, the Constructivists' contributions to a portfolio of drawings submitted to the INKhUK in April 1921 at the culmination of a four-month debate conducted among thirty or so of its members (chapter 1). The explicit subject matter of this debate is the delimitation of composition *(kompozitsiia)* and construction *(konstruktsiia)*—two principles for the formal organization of the constituent elements of a work of art. The heterogeneity of the Constructivists' articulations of these principles is then further amplified in a second body of laboratory work—the spatial constructions exhibited a month after the debate comes to an end (chapter 2). I propose that each corpus constitutes a collective attempt on the part of the Constructivists to eradicate composition from the work of art—to suppress any trace of artistic subjectivity in the interrelation of the work's formal elements. Not only Alberti's rules for composition are under attack here, but also something much more immediate—namely, the inner, spiritual motivation that underlies Kandinsky's series of large-scale quasi-abstract oil paintings of 1913, to which the artist gave the name *Compositions*. In opposition to Kandinsky's theory and practice of composition, and in contestation of his administrative power within the INKhUK and the Moscow art world more generally, the Constructivists advocate a new principle—construction—which signifies the negation of hierarchy, subordination, relationality, arbitrariness, and excess in the work's formal arrangement, and the repudiation of its maker's subjective choice.

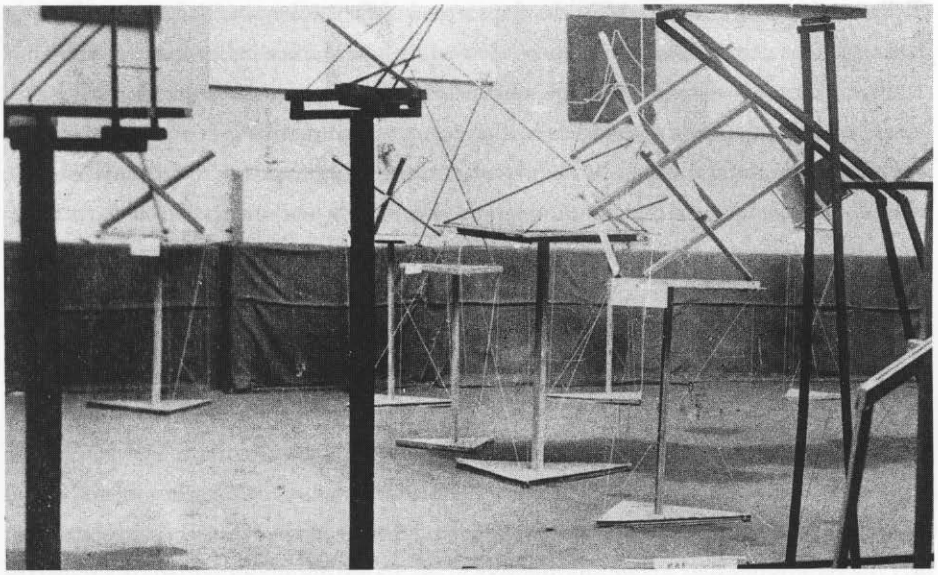
Analyzed in this light, laboratory Constructivism's attempt to eradicate subjective choice may be situated within a much broader discourse of motivation that, as Yve-Alain Bois has demonstrated, runs through the history of modernism in general and of abstraction in particular. Within the terms of this discourse, the Constructivists' pursuit of the principle of construction—as a potential locus of the erasure of authorship—would constitute an exemplary instantiation of what Bois calls a search for strategies of motivation (the logical antonym of arbitrariness within Ferdinand de Saussure's theory of the sign).[12] To contextualize laboratory Constructivism within this broader discourse of modernism is to deny nothing of its historical specificity, however. On the contrary, I believe that it is only by resituating the object of study at a certain distance from its immediate context that the specificity of that context may become legible.

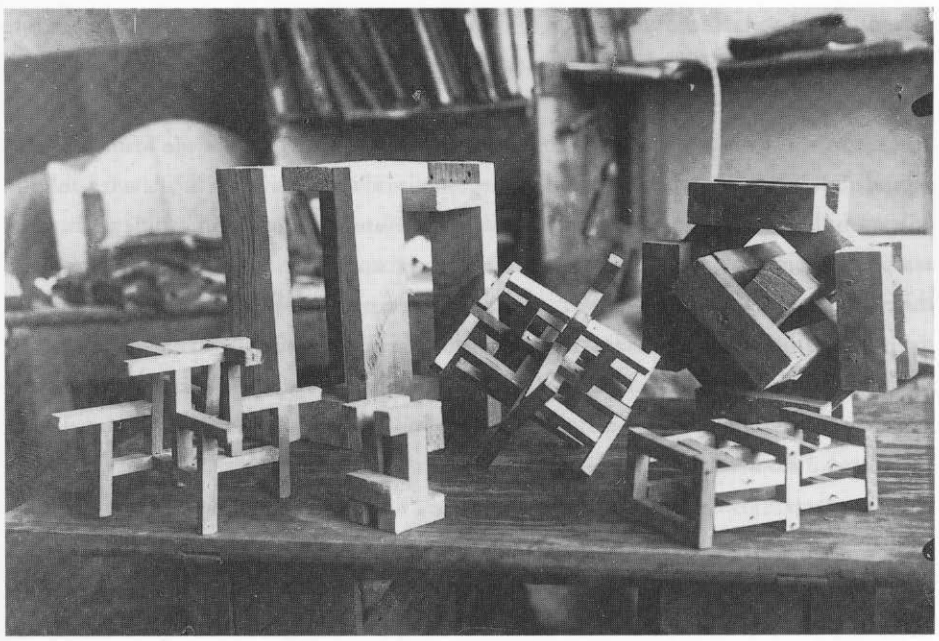
Thinking about Constructivism in terms of motivation assists in building a picture of its historical specificity in two ways: First, it enables us to foreground laboratory Constructivism's place within the specifically Russian avant-garde discourse of *faktura*. Narrowly



12 Vladimir Tatlin. *Corner Counter-Relief, no. 133.* 1915. Aluminum and tin sheeting, oil pigment, priming paint, wire, and fastening components. Dimensions unknown. No longer extant.

and conventionally speaking, *faktura* means "texture" or "facture"—that is, a property of painting, sculpture, and many other arts, including verse. More significantly, for our purposes, it refers to the overall handling or working of the material constituents of a given medium, and thus to the process of production in general: "By *faktura,*" the critic Tarabukin writes, "we mean the working of the material."[13] In this sense, *faktura* is an integral term in the Russian vanguard's broadly modernist conception of art as a mode of production rather than expression. But if *faktura* had historically been understood as the very locus of artistic subjectivity, it increasingly came to signify—in the hands of the Russian avant-garde beginning circa 1912—the explicit erasure of that subjectivity. Over the course of the ensuing decade, *faktura* is transformed from an index of authorial presence into an index of material presence. A first step in the process of this dramatic reversal or inversion of the conventional significance of *faktura* is evident in the materiological determinism of Tatlin's pre-revolutionary counter-reliefs (fig. 12), wherein the material shapes the form, rather than vice versa, but the process reaches its climax only with the advent of laboratory Constructivism. Its most explicit examples are found among the spatial constructions of Ioganson and Rodchenko, wherein structures are generated through either deductive or nonrelational progressions of modular units (figs. 13, 14).[14]





13 View of *Second Spring Exhibition of the OBMOKhU*, with works by Karl Ioganson. Photograph courtesy of Viacheslav Koleichuk, Moscow.

14 Aleksandr Rodchenko. *Spatial Constructions* (third series). 1921. Photographed by Rodchenko(?) in 1924. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

Second, laboratory Constructivism's discourse of motivation can be considered in terms of the revolutionary context of its development. Insofar as Constructivism crystallizes in the course of a debate held within an institution ratified and funded by the new state, it is clearly an enterprise facilitated in the most basic and essential way by the October Revolution. But Constructivism is marked by that context in a way that is at once more specific and more metaphoric, for early Bolshevik culture is itself suffused with a vigorous discourse of motivation—a passion for the elimination of hierarchy and excess. This is particularly evident in the Bolsheviks' commitment to the command-economy policies of War Communism, which valorize centralized planning and organization. I propose that laboratory Constructivism does not merely reflect this broader cultural discourse of motivation so much as mediate it at a critical juncture in the demise of War Communism: The Constructivist pursuit of the principle of construction constitutes an intervention voiced within the realm of cultural production against a new direction announced by the party in March 1921, the NEP, which comprises a substantial return to a market economy in all areas of production other than heavy industry, transport, banking, and foreign trade. In other words, in spring 1921 the NEP is heading straight for the INKhUK, an institution supported by a state cultural bureaucracy (the aforementioned Narkompros) established under the old policy of War Communism, and which is itself soon to be massively overhauled in order to bring it in line with the new arbitrarinesses or laws—depending on which side of the fence one is on—of the marketplace.

The Artist as Producer thus seeks to challenge the received view that the formalism and abstraction of the Constructivists and the sociopolitical imperatives of the new republic—at least in their initial constitution under War Communism—are at impossible odds. It attempts to demonstrate that the Constructivists' preoccupation with form is never singular—that it is never a preoccupation with *making* at the expense of the ideological meaning of that which is made: "We, formalists *and* materialists," Stepanova declares in November 1920.[15] Reconstructed, re-presented, Constructivism's laboratory phase becomes newly available as an exemplary instance for any critical attempt to link a history of radical, impersonal form to a history of radical politics.

In the latter half of the book, I turn to the second Constructivism—to the platform to which the Constructivists commit themselves after fall 1921: *proizvodstvennoe iskusstvo,* which is usually translated into English as "production art." This term and its synonym *proizvodstvennichestvo* (an abstract noun derived from the word for production or industrial worker, *proizvodstvennik,* and referring to the latter's labor in an industrial environment) have always presented major difficulties of interpretation.[16] (As early as 1924, for example, when the Slavophile writer Konstantin Miklashevskii declares in his anti-Constructivist tract, *The Hypertrophy of Art (Gipertrofiia iskusstva),* that the Constructivists have sought refuge from the

poverty of their art under the cover of a new word, *proizvodstvennichestvo,* he sarcastically apologizes to his book's typesetter: "I beg your pardon . . . I did not think up this word!"[17]) But perhaps the greatest difficulty posed by these neologisms, and the platform to which they refer, has to do with the question addressed here in chapter 3: how, precisely, will the Constructivists attempt to transform themselves into production artists/workers?

If the first half of this book is chiefly concerned with explicating the significance and meaning of Constructivism's laboratory form, its second proposes and unpacks for the first time a certain forking of the Constructivists' productivist platform into two distinct trajectories—one object-oriented, the other process-oriented. This forking arises as a result of the different ways in which the Constructivists theorize their new utilitarian objectives, particularly with respect to the focus or locus of the latter's application. In both the Soviet and western literature to date, production art is generally discussed as design, or as design *avant la lettre.* The major focus of the Constructivist's ambition is accordingly represented as the Constructivist fashioning of an industrially produced utilitarian object.

Certainly, this trajectory (which we might refer to as central or mainstream) was brought to the fore in the "rehabilitation" of Constructivism in the Soviet Union in the 1960s. Until 1990, the chief institutional location for the study of Constructivism was the Department of the History and Theory of Design in Moscow, directed by the architectural historian Selim Khan-Magomedov. This was a department within the All-Union Scientific Research Institute for Technical Aesthetics (Vsesoiuznyi nauchno-issledovatel'skii institut tekhnicheskoi estetiki; VNIITE), which, in turn, came under the administrative authority of the State Committee of the USSR for Science and Technology (Gosudarstvennyi komitet SSSR po nauke i tekhnike). Over the course of several decades, the Department of the History and Theory of Design published one of the most important secondary sources for the history of Constructivism, the journal *Tekhnicheskaia estetika (Trudy VNIITE)* (Technical aesthetics [Transactions of the VNIITE]). The significance of the journal's particular institutional setting is substantial, for it helped to reshape Constructivism—discredited since the late 1920s as "a formalistic tendency in bourgeois art," "anti-humanistic by nature," and "hostile to realism"—in terms of the history of "great fatherland" (that is, national) design, wherein Constructivism comes to be posited as the latter's very origin.[18] It is partially as a consequence of this particular research environment that Constructivism's legacy is assessed in the former Soviet Union chiefly—if not exclusively—in terms of the inauguration of twentieth-century design practices and the reinvigoration of architecture. Lodder's influential 1983 study likewise traces Constructivism's evolution "as a theory of design," placing it "within the context of the general idea of production art."[19]

While contesting neither the centrality of the design interpretation of the Constructivists' productivist platform nor the vital scholarship accomplished in its name by Khan-Magomedov, Lodder, Natal'ia Adaskina, Elena Sidorina, Roann Barris, Maria Zalambani, and, most recently, Christina Kiaer[20]—I would like to juxtapose an alternate trajectory. This alternate

trajectory comprises a turning away from the mainstream emphasis on the object on the grounds that it involves an inappropriate, if unwitting, transfer of a "handicraft" or "backward" *(kustarnyi)* conception of the object to the industrial arena at the very moment when mass production, on myriad fronts, is destroying that conception altogether. (In retrospect only, we could describe this dissenting productivist position as a resistance to, or as a certain failure or lack of desire to imagine in advance, that which would eventually become known as design.) The alternate trajectory within the productivist platform has little faith in the Constructivist as a producer of objects, irrespective of whether they are construed within the traditional realm of aesthetics or in the context of industrial production and utilitarian function. Its primary thrust is instead the invention of apparatuses and systems of production—the very processes of production itself.

In order to register this alternate trajectory lexically, I distinguish it in this book as the Constructivist pursuit of an "art of production," as opposed to the more customary expression "production art." This apparently simple reordering of the English translation of *proizvodstvennoe iskusstvo* redraws the respective weight of the term's two components—"art" and "production"—in such a way as to afford the reader a more empathetic sense of the alternate embrace of the notion of production that I am seeking to bring to the fore. The phrase "art of production" allows "art" the broadest possible purchase, thereby foregrounding the intensity of the Constructivists' speculation about production as a repository of knowledge in a communist economy.

Once Constructivism arrives at its productivist juncture, my story makes a sharp left turn, more or less bypassing the mainstream of production art—already so well discussed in the literature—in order to follow the path of its art of production. This left turn necessarily has a major impact on the overall structure of *The Artist as Producer.* While the first half of the book differentiates a range of positions advanced by the Constructivist group in the laboratory, the focus of its later chapters narrows to the reconstruction, in detail, of two instantiations of the alternate trajectory I am proposing: its articulation in *From Easel to Machine (Ot mol'berta k mashine,* 1923), a productivist tract by Tarabukin, the art historian and critic who serves as the INKhUK's academic secretary between 1921 and 1924 (chapter 4), and its elaboration by Ioganson, first in his 1922 reconfiguration of the Constructivist as an inventor (chapter 3), and then in his attempt to introduce this new model to the Moscow metalworking factory Krasnyi Prokatchik between 1923 and 1926 (chapter 5).

Drafted over the course of 1922, and thus directly in the wake of the Constructivists' declaration of their productivist platform, Tarabukin's *From Easel to Machine* delivers a polemical attack on any definition of the role of the Constructivist in production as the creator of objects or their prototypes. Such roles are precluded, he argues, by the paradox of industrial modernity itself—that mass production destroys the formal integrity of the object. Instead, "the process of production itself—which is but the means of the object's manufacture—

becomes the goal of [the Constructivist's] activity."[21] Tarabukin's route to this argument is partly by way of a reading of the work of a most unlikely—at least in retrospect—interlocutor, the reactionary German writer Oswald Spengler, who enjoys massive popularity in the Russian republic in the early 1920s. In particular, Tarabukin adopts Spengler's notion of the nonobjectivity of contemporary culture in order, I argue, to put pressure on the productivist platform's dominant orientation toward the integral object.

The sustained attention given to Ioganson's contribution to Constructivism in the first and second chapters of this book, which examine, for the first time, the radical intelligence of his laboratory theory and practice vis-à-vis that of his Constructivist colleagues, prepares the way for the adjustment of the book's lens, midway, from wide-angle to zoom. In fact, it is on account of the radicality of the intelligence of this previously little-known figure that I first became interested in trying to reconstruct the main contours of his then equally obscure position within the Constructivists' productivist shift: What would an artist who had demonstrated such acuity in the laboratory of Constructivism want to do after 1921? How would—and did—he imagine his new role as a Constructivist in production?

In chapter 3, having presented an overview of three different models of the Constructivist in production—formulated by Stepanova, Arvatov, and Kushner, respectively—I then turn to reconstruct Ioganson's proposed resolution of the problem: the Constructivist as an *inventor* in production. In the course of doing so, I draw out of his model a significant tendency toward nondeterminism—toward the unforeseeable—a tendency that runs contrary to the utilitarian objectives to which he, like his colleagues, is otherwise fully committed after 1921. My final chapter then presents an account of how Ioganson's new model plays out in the industrial environment. This involves a reconstruction and analysis of the multiple ways in which, first as an inventor and then as an "organizer" *(organizator)*, Ioganson endeavors to instantiate a process-driven rather than object-driven productivist platform within the specific conditions he encounters at Krasnyi Prokatchik. Ioganson's story from the bench—and from the party cell—provides the most substantial case study we now have of the Constructivists' various attempts to enter industrial production.

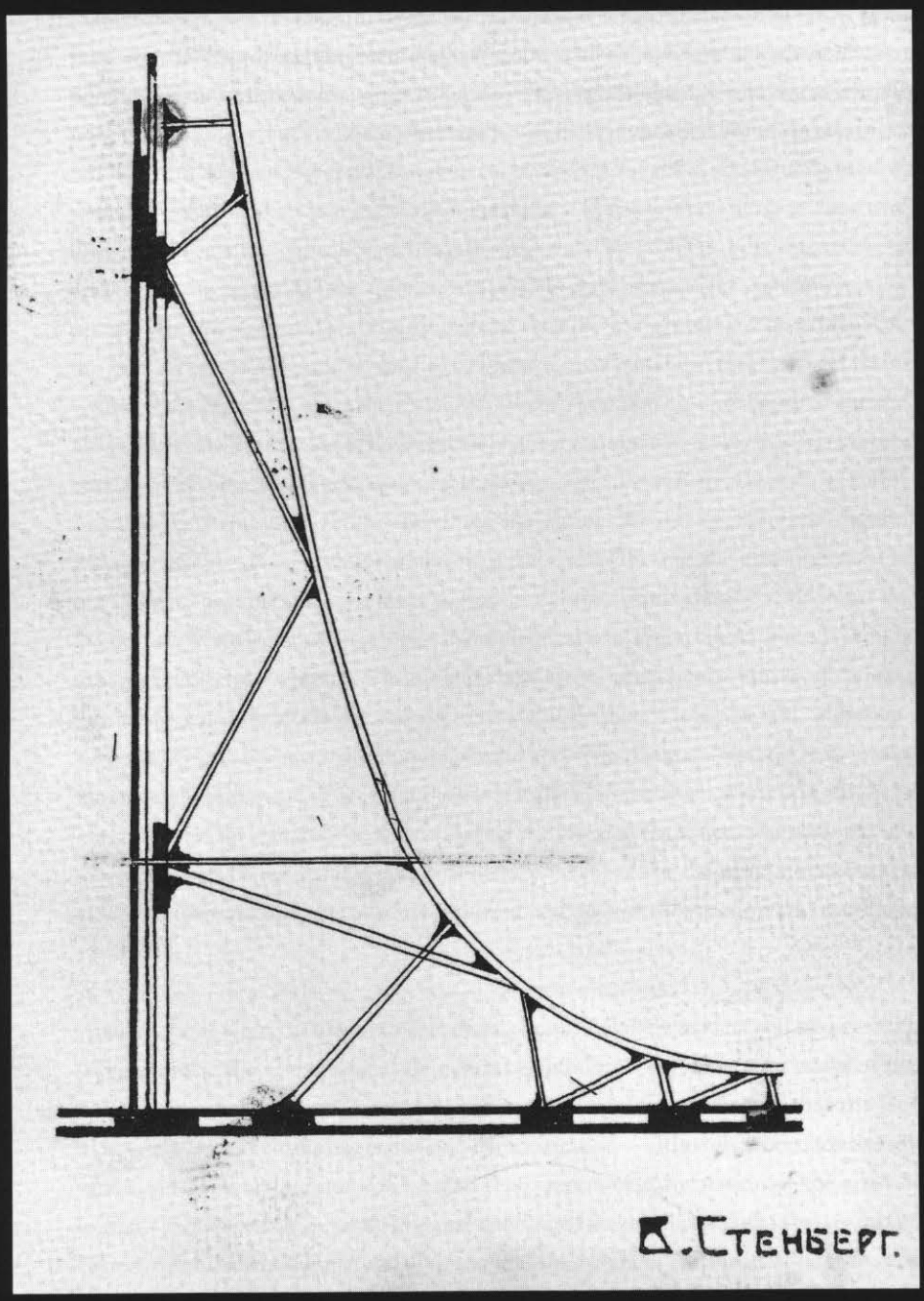
As my story of Constructivism progresses, therefore, it increasingly comes to focus on Ioganson, a hitherto marginal figure who is now moved out of the historiographically constituted "backyards and low haunts" of history—to borrow a phrase from the Russian formalist Iurii Tynianov[22]—and into its front parlor. But that increasing focus, which enables the artist's passage from periphery to center, is itself the direct consequence of the book's larger and overall commitment to the differentiation of positions within a relational field, whether that field is defined as the Moscow INKhUK or the Constructivist group itself. Each of these research circles comprises an arena in which groups and individuals are mutually imbricated. The extreme radicality of Ioganson's Constructivism thus emerges from within, and is individuated by, his dialogue with his INKhUK peers—*praktiki* and *teoretiki* alike—over the course of some four years. In other words, the figure of Ioganson as Constructivist is, like Constructivism itself, made in INKhUK.

For this reason, the ultimate focus of this book is not monographic. Nevertheless, there remains the difficult question of Ioganson's exemplarity *within* the relational field I present. Is the Constructivist exemplary with respect to the other members of his group? Both yes and no. If to be exemplary means to be a typical or representative instance of a given phenomenon, then no, he is not exemplary—though it is hard to imagine *any* member of the group fulfilling this sense of the term. But if to be exemplary means to constitute a model or outstanding example, then yes, Ioganson is exemplary of the group, and in at least two senses: first, in terms of the radicality of his grappling with the problem of construction; and second, insofar as he pushes the unrelenting process of Constructivist experimentation to the point of its utter exhaustion. Ioganson alone runs the full gamut of Constructivism—from the making of spatial constructions to full-blown involvement in industrial production.

Just as the book's focus on the INKhUK allows a hitherto obscure figure to emerge, it also serves to defamiliarize—and thus remember anew—those well-known artists to whose presence we may have become accustomed in accounts of Constructivism, such as Tatlin and El Lissitzky. It is true that Tatlin—the most significant "anxiety of influence" figure for the Moscow group—is an occasional visitor to the INKhUK, and the ever-mercurial Lissitzky is a member and present for a brief period in fall 1921, immediately prior to his departure for Berlin. Whether as an antagonist in a polemical confrontation with the INKhUK, or as the subject of endorsement by it, each of these artists plays a constitutive, if cameo, role in this book's story of Moscow Constructivism. But neither, it must be said, is present for the long haul.[23] Neither monograph nor survey, then, *The Artist as Producer* is an example of a somewhat hybrid genre of art-historical writing that, in the Russian context, might be called "circle studies" in recognition of the role that the research circle *(kruzhok)* has played in Russian and Soviet cultural and intellectual history.[24] One of the defining characteristics of this genre is a shift of emphasis to more localized practices of theorization and production.

Finally, a brief word on the main title of this book: As many readers will be aware, I borrow and customize the title of one of Benjamin's groundbreaking materialist essays of the 1930s, "The Author as Producer" (1934).[25] In doing so, I underscore the fact that the Constructivists' self-critical enterprise is but one demonstration—although an extraordinarily innovative and compelling one—of a broad theorization of the question of the artist or intellectual's *Existenzrecht,* or right to exist, conducted in the 1920s and 1930s as much under capital, or under capital in crisis, or under fascism, or under the threat of fascism, as it is under communism. Ultimately, the question of "how today's artist justifies his existence"—as V. Khrakovskii puts it in December 1921[26]—is as ancient as it is contemporary. In fact, the expulsion of the poets from Plato's "perfect" community in *The Republic* is often cited—by Benjamin, among others—as this question's foundational moment. But beyond its metacritical relevance to the emergence and development of Constructivism, "The Author as Pro-

ducer" specifically invokes a Soviet avant-garde model for its own reconfiguration of the role of the leftist writer in the class struggle. Since I have discussed this essay at length elsewhere,[27] suffice to say here that, in making this invocation, Benjamin rescues the thread—for his own historical present, and for myriad others—of a process of vanguard theorization first opened by Constructivism, in the Moscow INKhUK, in the early 1920s.



15 Vladimir Stenberg. *Construction.* n.d. Ink on paper. 25.4 × 19.3 cm. INKhUK stamp no. 6. Costakis collection, inv. no. C165. The State Museum of Contemporary Art, Thessaloníki. Photograph courtesy of Aliki Kostaki, Athens.

1

Composition and Construction

There appeared, parallel with [Suprematism] . . . some painters who worked without specific objects. They aspired to the pure subjective portrayal of their emotions by means of colour-combinations. By comparison with the work of the suprematists, their pictures reminded one of rubbish-heaps. . . . The typical representative of this group was Kandinsky. He introduced the artistic formulas of contemporary German metaphysics, and therefore in Russia he remained a purely episodic phenomenon. But the necessity, so strongly felt by young Russian painters, for an established order as a basis for all art instigated other nonobjective painters—Rozanova . . . Rodchenko, and others—to renounce subjective expression and take the third road to the same Rome, the road to constructive art.

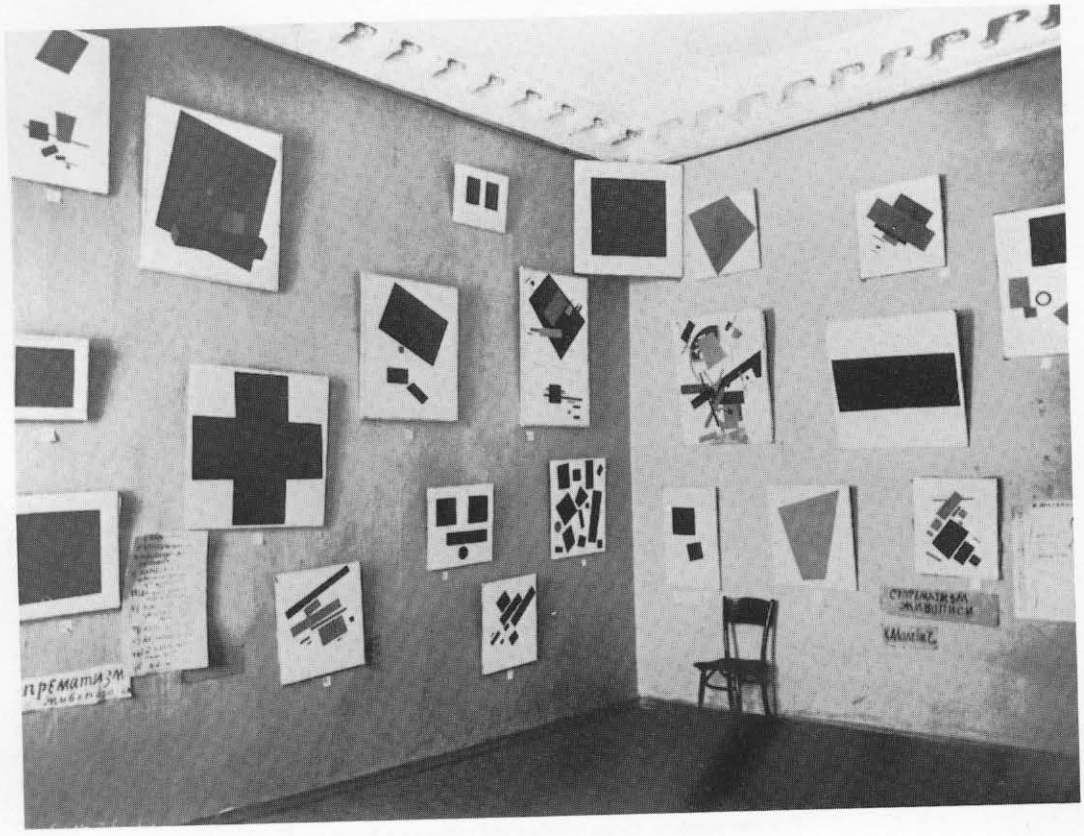
El Lissitzky, "New Russian Art: A Lecture" (1922)

Nothing accidental, nothing unaccounted for, nothing as the result of blind taste and aesthetic arbitrariness.

Aleksei Gan, *Constructivism* (1922)

MOTIVATION

When Kazimir Malevich launches Suprematism at *0.10: The Last Futurist Exhibition (Posledniaia futuristicheskaia vystavka kartin: 0.10)*, held in Petrograd[1] in 1915 (fig. 16), he describes his new achievement as a kind of "painterly realism" *(zhivopisnyi realizm)*, as opposed to painterly illusionism, explaining that his "new painterly realism is a painterly one precisely because it has no realism of mountains, sky, water." Up until now, Malevich declares, "there has been a realism of objects, but not of painterly, colored units."[2]



16 View of works by Kazimir Malevich in *0.10: The Last Futurist Exhibition.* Galerie Dobychina, Petrograd. 1915. Photograph courtesy of Galerie Gmurzynska, Cologne.

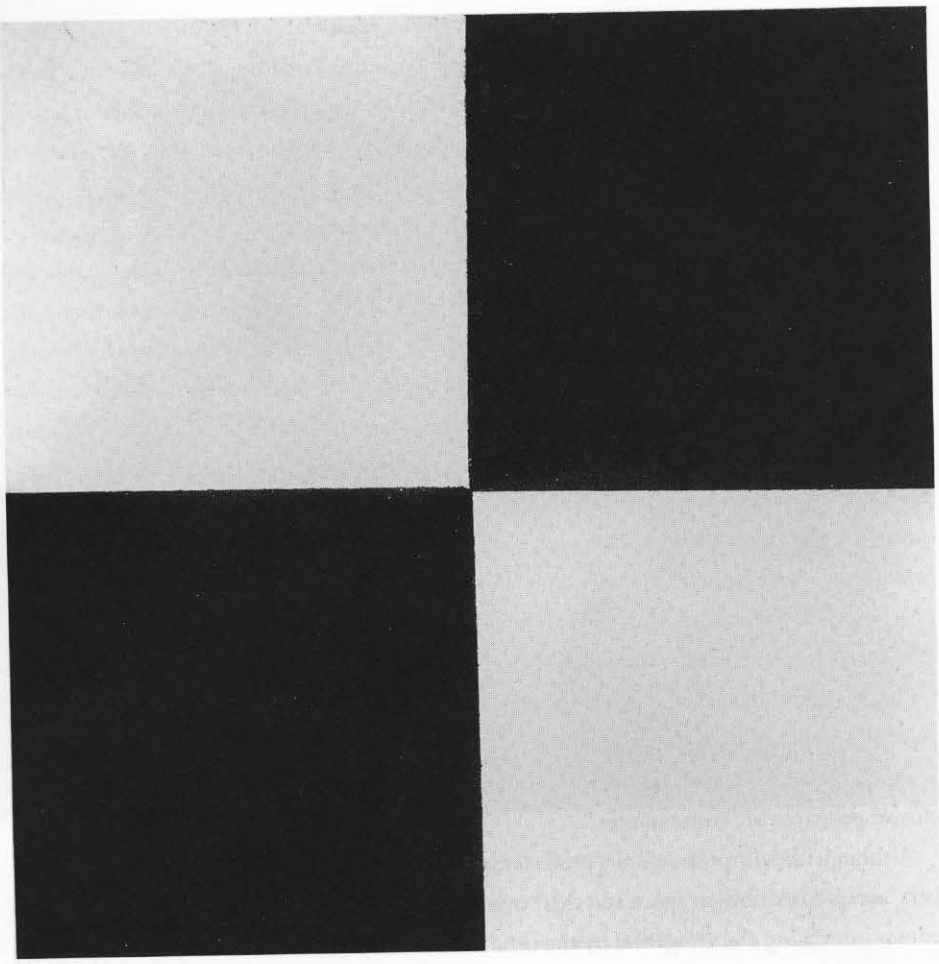
Easel painters should now turn exclusively to the material properties of their art as the significant content of their work: color, *faktura,* the planarity of the surface, the flatness of the support, the shape and extension of the ground. But if painterly illusionism were discarded in favor of painterly realism, what would be the logic or principle by which the nonobjective painter would organize the "painterly, colored units" of this new realism? In other words, how would Malevich justify, or motivate, his nonobjectivity? This question has to be answered, it is felt, in order to deflect mounting criticism that nonobjective painting is at best decorative and at worst merely arbitrary. Thus, if the first task of early-twentieth-century abstraction was to get rid of the referent in painting, to refuse the question "what is this picture of?"—to saturate the canvas with painterly *(zhivopisnyi)* rather than thematic *(siuzhetnyi)* content, as Nikolai Tarabukin puts it in 1923[3]—its second task is the determination of new logics or principles by which this "painterly content" might be *organized.* In *Four Squares* (1915; fig. 17), for example, Malevich tackles the problem of motivation by in-

troducing an indexical or deductive mode of pictorial organization: the surface arrangement duplicates its material support fourfold, suspending painting's traditional compositional problems of balance and relationality. A restrained logic of deduction thereby serves to resolve the chaotic articulation of his otherwise often "baroque" Suprematism (e.g., *Suprematism,* 1915; fig. 18). (The term "baroque" is here borrowed from Malevich's erstwhile pupil, the Polish artist Władysław Strzemiński, for whom it is pejorative.[4])

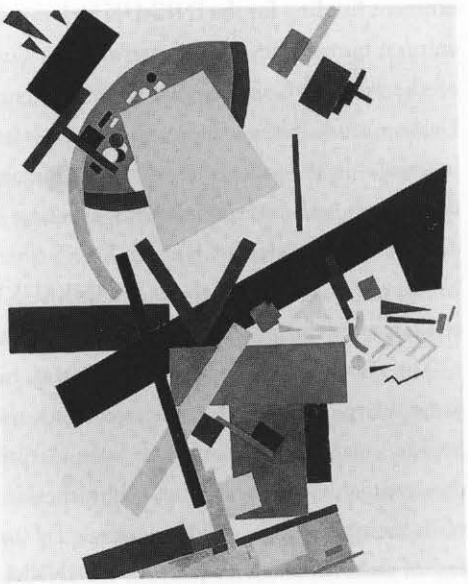
But if Malevich's Suprematism seems to swing back and forth between its deductive and baroque drives, the same cannot be said of the work of the next generation of artists—the Moscow Constructivists—who come to the fore in the aftermath of the October Revolution. In their hands, the nonobjective painter's problem of motivation finds its most systematic and unrelenting interrogation. The present chapter focuses on a specific manifestation of their collaboratively conducted inquiry: a portfolio of twenty-seven works on paper produced by various members of the Moscow INKhUK over the course of 1920–21. Acquired by the Greco-Russian collector George Costakis (Georgii Kostaki) before his emigration to Greece in 1978, the portfolio is now preserved in the State Museum of Contemporary Art in Thessaloníki.[5] Even though it has been exhibited extensively over the last two decades or so, the portfolio has never been the focus of sustained analysis.[6] In what follows, I want to suggest that, considered within the historical context of its production, the Costakis portfolio constitutes a direct attack on the compositional theory and practice of the INKhUK's founding director, Vasily Kandinsky, in the name of a seemingly interminably elusive principle of "construction."

Although initially proposed as a professional organization dedicated to improving its members' access to exhibition space and their overall material welfare, the Moscow INKhUK becomes something else altogether by the time it is formally instituted in May 1920—namely, an interdisciplinary, theoretically oriented, state-funded research center for the arts.[7] Government funding for the INKhUK is channeled through the Bolshevik administration's new cultural bureaucracy, the Department of Fine Arts (Otdel izobrazitel'nykh iskusstv; IZO) of the People's Commissariat of Enlightenment (Narodnyi komissariat prosveshcheniia; Narkompros). It is worth noting that as a state-supported initiative, the INKhUK is far from unusual—in the wake of the October Revolution, the Bolsheviks establish and fund more than a hundred research institutes covering manifold aspects of scientific and cultural endeavor.[8] The modernist painter David Shterenberg, who serves as the director of IZO Narkompros, is specific about the INKhUK's function: "We organized the INKhUK as a cell *[iacheiku]* for the determination of scientific hypotheses on matters of art."[9]

The INKhUK's membership fluctuates, but in the first year of its operation it includes some thirty or so visual artists, architects, musicians, and art critics. Along with its pedagogical correlative, the Higher State Artistic and Technical Workshops (Vysshie gosudarstvennye khudozhestvenno-tekhnicheskie masterskie; VKhUTEMAS), at which many of its members teach, and the journals *Lef* (1923–25) and *Novyi lef* (1927–28), in which several of its members later publish, the INKhUK is a key institution in the development of



17 Kazimir Malevich. *Four Squares.* 1915. Oil on canvas. 49 × 49 cm. A.N. Radishchev State Art Museum, Saratov, inv. no. Zh-1089. Photograph courtesy of A.N. Radishchev State Art Museum, Saratov.



18 Kazimir Malevich. *Suprematism.* 1915. Oil on canvas. 80.5 × 81 cm. State Russian Museum, St. Petersburg, inv. no. ZhB-1332. Photograph courtesy of State Russian Museum, St. Petersburg.

early Soviet art and culture. And, at least until fall 1921, it is committed to securing the continuing pertinence of nonobjective modes of production. In practice, it operates in a way somewhat comparable to the research circles of the Russian formalists, such as Viktor Shklovsky and Osip Brik's Society for the Study of Poetic Language (Obshchestvo izucheniia poeticheskogo iazyka; OPOIAZ) and Roman Jakobson's Moscow Linguistic Circle (Moskovskii lingvisticheskii kruzhok; MLK), both established without state resources before the Revolution (though by 1919 the MLK is on the Narkompros payroll, where it remains until 1923[10]).

After the closure of the INKhUK in 1924, its archives and collections, including the portfolio, pass to a sculptor who played a vital role in its daily operations—Aleksei Babichev—from whose widow, Natal'ia Babicheva, it is eventually acquired by Costakis. The portfolio's works on paper—hereafter referred to, for simplicity's sake, as drawings—are executed in a variety of media (graphite, ink, colored pencil, crayon, gouache, and collage) and on sheets of various dimensions (the largest is 52.1 × 28.2 cm, the smallest, 16.1 × 10.6 cm). Twenty bear the institutional stamp of the INKhUK on their versos and, with two exceptions, are numbered; it is with these that the present chapter is concerned.[11]

The Costakis portfolio comprises paired "demonstration" drawings submitted by participants to the final session of a debate that preoccupies the INKhUK over the course of several months in 1921, from early January to late April. The focus of this debate is an analysis of composition *(kompozitsiia)* and construction *(konstruktsiia)*—two principles for the organization of the constituent elements of a work of art. Of especial concern is the determination of the factor or factors delimiting one from the other. The nine evening sessions devoted to this task are held in the galleries of the new artist-run museum of contemporary Russian art, the Museum of Painterly Culture (Muzei zhivopisnoi kul'tury; MZhK; fig. 19), located at 14 Volkhonka *ulitsa* in central Moscow, adjacent to the present-day Pushkin State Museum of Fine Arts (Gosudarstvennyi muzei izobrazitel'nykh iskusstv imeni A. S. Pushkina).[12] The ambition of each pair of submitted drawings is the demonstration of its maker's conception of the delimitation of composition and construction.

In investigating these two apparently distinct principles by which the elements of a work of art might be related to one another and thereby constitute a whole, the Costakis drawings broach an antagonism already long felt in architectural theory, as Reyner Banham reminds us, but not hitherto debated—at least not within an institutional setting—in the realm of the fine arts.[13] For many avant-garde artists and architects in the 1920s—including certain members of the Moscow INKhUK, as we shall see—composition signifies the arrangement of *a priori* elements into a unified whole according to established rules of proportion, hierarchy, balance, or harmony (as in classical composition), established rules of rhetoric (as in Alberti's theory of pictorial composition), or the free, "subjective" will of the artist (as in modernist composition). In classical, humanist, and modernist theories of composition, the unity of the whole is thought to be relational in character, and its maker's individual

19 Temporary installation at the Museum of Painterly Culture (MZhK), Moscow. January 1920. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

judgment—whether rule-bound or subjective—is held to have played a determining role in its production. To this notion of a relational and authorized whole is opposed the principle of construction, which broadly signifies—again, at least among some members of the INKhUK—the deductive or motivated generation of the whole. The unity of constituent elements produced through such modes of generation is thought to be organic rather than relational, and the "interference" of the artist's or architect's individual judgment thereby supposedly minimized.[14]

The present chapter offers a reading of the Costakis portfolio with a view to reconstructing the historical and polemical field in which it originates and that it serves to articulate. I should emphasize from the start that the process of delimitation with which the INKhUK is engaged is no neutral exercise: A strong negative value attaches to composition, while construction is infused with overwhelmingly positive connotations. In the midst of both aesthetic crisis and Bolshevik Revolution, composition is posited as the repository of everything to be rejected, while construction, by contrast, is the locus of everything to be affirmed.

Notwithstanding their unassuming appearance, the Costakis drawings are historically

significant in two major respects: First, as an ensemble they constitute a formal attempt—hitherto unprecedented within avant-garde circles—to institutionalize the modernist problem of the motivation of the arbitrary that, as Yve-Alain Bois argues, runs through the history of late-nineteenth-century and early-twentieth-century art, particularly abstraction.[15] As noted at the outset, if the nonobjective painter's initial task was to get rid of the referent in painting, his or her next task is to determine the logic or principle by which this new "painterly content" will be organized. "The problem of construction arose," Aleksandr Rodchenko explains, "when [representational] painting and its technique were abandoned."[16] The problem of construction is, in short, a problem of motivation: how to prevent this newly emancipated painterly content from free-falling into the merely arbitrary arrangement of random pictorial elements.

Second, the Costakis drawings constitute the earliest and most extensive material trace we have of the emergence in March 1921 of the movement known as Constructivism, for it was during the course of their participation in the composition-versus-construction debate that six apparently like-minded artists working in an experimental vein—Karl Ioganson, Konstantin Medunetskii, Rodchenko, Georgii and Vladimir Stenberg, and Varvara Stepanova—together with the cultural agitator Alekscі Gan, establish themselves as a group and claim the term "Constructivism" as their own. Contrary to the received view, however, Moscow Constructivism does not constitute a univocal platform at its inception. In order to afford a sense of the complexity of the composition-versus-construction debate—and thus also of the heterogeneity of Constructivism—I will offer a taxonomy of five different positions advanced by the soon-to-be Constructivists over the course of the debate. This taxonomy is primarily based upon a reading of the rhetoric of the drawings themselves. My objective is to make manifest once again what Roland Barthes might have called their "rules of functioning"[17]—to reconstruct or re-present not only what each drawing signifies, but also, and equally importantly, how it accomplishes its work of signification.

The purpose of my proposed taxonomy is heuristic: to slow down the proleptic leap made in the available histories of Constructivism, wherein the struggle to differentiate composition and construction tends to be interpreted as a matter of a shift in media (two- versus three-dimensional works of art), or of a dichotomy of aesthetic versus utilitarian objects, or of the development of Soviet architecture.[18] While the second of these three analyses—the mainstream or central productivist interpretation—gains significant force from the fact of Constructivism's later transformation into production art, I would argue that the prolepsis upon which it rests is problematic if we wish to grasp the polemical heterogeneity of the early Constructivist enterprise. Further, both productivist and architectural readings of the debate obscure what I would argue is crucial: its rootedness in the modernist problem of motivation.

Of invaluable assistance in reconstructing the intelligibility of the Costakis drawings have been the stenographic records of the debate's proceedings. Because the debate takes place within a newly inaugurated state institution, it is conducted not only under the scientific

gaze of what its participants call "objective analysis," but also under a bureaucratic one. In order to ensure accountability before IZO Narkompros, minutes of all sessions are kept by the INKhUK's academic secretary. (Until April 1921, when Tarabukin joins the INKhUK, this job is carried out by Stepanova.) Stenographic records of eight of the nine sessions have been preserved by the heirs of various INKhUK members (Stepanova, Rodchenko, Babichev, the sculptor Boris Korolev, and the architect Vladimir Krinskii). In 1979, Selim Khan-Magomedov published a transcription of the debate's proceedings in the journal *Tekhnicheskaia estetika (Trudy VNIITE).*[19] The stenographic records chart a long, arduous, repetitious, and often circular discussion spanning four months and are frequently extremely abstruse; nevertheless, from this tangled web of conversation and dispute I have tried to delineate the main contours of the debate. Before doing so, I will first trace the debate's genesis within the INKhUK's early history, in order to explicate how embedded it is in contemporaneous discourses of modernist painting.

VASILY KANDINSKY'S INAUGURAL PROGRAM: THE PSYCHOLOGY OF EXPRESSION AND PERCEPTION

Given that Kandinsky is no artist *engagé,* his appointment in May 1920 as the founding director of the INKhUK by the People's Commissar of Enlightenment, Anatole Lunacharsky, may at first glance seem rather surprising. Upon reflection, however, it is less so. Having spent almost two decades in Germany, Kandinsky has an international reputation and has achieved considerable success abroad. His interest in theoretical speculation—the INKhUK's chief mandate—has been amply demonstrated by numerous publications, including not only *On the Spiritual in Art* (*Über das Geistige in der Kunst,* 1914), but also the autobiographical *Text of an Artist* (*Tekst khudozhnika,* 1918), which has just rolled off the IZO Narkompros press.[20] And, having been absent from Russia for some time, he is also relatively untainted—although this will soon change—by the iconoclasm and internecine rivalries of the Russian avant-garde. In other words, Kandinsky represents an internationally respected, theoretically inclined voice of moderation that can be entrusted with the difficult task of mediating the conflicting agendas of art-world radicals and conservatives alike. Thus it is that without ever committing himself to the politics of the new government, Kandinsky is nevertheless invited in 1918 to join the Moscow Collegium of IZO Narkompros, in early 1919 to become the inaugural head of the Moscow MZhK, and in May 1920 to be the founding director of the INKhUK.

In this last capacity, Kandinsky draws up the INKhUK's inaugural program, which he presents in early June 1920 to a republic-wide conference of delegates from the State Free Art Studios (Gosudarstvennye svobodnye khudozhestvennye masterskie; SVOMAS)—the new open-entrance art schools established throughout Russia following the October Revolution.[21] In the program, Kandinsky states that the INKhUK's ultimate objective is

Kunstwissenschaft—the elaboration of a science of art *(nauka ob iskusstve)*. The INKhUK will conduct research into the fundamental elements of the arts in general, and of each art in particular. He defines the "fundamental elements" *(osnovnye elementy)* somewhat tautologically as "those elements without which the given art form would be unthinkable," and relegates to the status of "nonessential" or "supplementary elements" *(elementy privkhodiashchie)* those that might be found in some, but not all, examples of a given medium.[22]

Kandinsky divides the INKhUK into three sections. The first will concern itself with the problem of medium-specificity—that is, with defining the fundamental elements of each art: "in painting, its color and volumetric form; in sculpture, its spatial and volumetric form; in architecture, its volumetric and spatial form; in music, its phonic and temporal form; in dance, its spatial and temporal form; in poetry, its vocal-phonic and temporal form." A second section will theorize the intrinsic, organic, and synthetic connections that exist between these arts. The third and final section—the Section for Monumental Art (Sektsiia monumental'nogo iskusstva)—will develop a theory of monumental art (a kind of *Gesamtkunstwerk*), which, Kandinsky predicts, will lead to "the art of the future." The Section for Monumental Art will elaborate a science of synesthesia, a common preoccupation in many quarters of the European avant-garde, particularly before the First World War. Kandinsky's primary interest is in cataloguing the particular effects that the fundamental elements of each art have upon viewers. His proposed method of research is quantitative: data will be gathered through the circulation of surveys. He also invites artists to conduct "laboratory research" in concert with scientists; the latter will ensure that "scientifically objective" methods are deployed.[23]

Chairing the session in which Kandinsky presents his program to the SVOMAS conference is the formalist theoretician and IZO Narkompros bureaucrat (and later INKhUK member) Osip Brik. "Having heard comrade Kandinsky's paper about the tasks of the Institute of Artistic Culture," Brik moves that "the conference enthusiastically ratify IZO's initiative in the scientific formulation of the fundamental questions of art, without which [art's] further development is unthinkable." Brik's motion is entered as a formal resolution of the conference.[24] At this early stage in the history of the INKhUK, Kandinsky seems to have IZO's full support.

As it turns out, only the INKhUK's third section—the Section for Monumental Art—will flourish under Kandinsky's directorship. (The first and second sections will never get off the ground.) Headed by Kandinsky himself, and initially including also Rodchenko and Stepanova, the Section for Monumental Art is extremely active, meeting some thirty-three times between May and December 1920. Papers presented at its meetings address a wide range of topics, including children's art, *faktura*, *lubki* (popular woodcut or engraved prints), African sculpture, folk songs, dance, and the fundamental elements of each of the arts. In terms of the section's interest in synesthesia, Kandinsky is chiefly concerned with forging links between painting and the temporal arts of music, dance, poetry, and drama, rather than between painting and the spatial arts of sculpture and architecture.

Under the aegis of the Section for Monumental Art, Kandinsky issues his INKhUK colleagues a detailed "questionnaire" *(oprosnyi list).* On the basis of their written responses, Kandinsky hopes to deduce the general laws operative in the human perception of form, in order to arrive at (what he considers to be) a scientific analysis of the psychological underpinnings of aesthetic expression. To this end, his questionnaire asks:

> Which art affects you the most and arouses in you the strongest feelings? . . . Have you noticed in yourself any kind of feelings (whether pronounced or even undefined) after contemplating . . . elementary or complex drawn forms (for example, a point, a straight line, a bent line, an angular line, a triangle, a square, a circle, a trapezoid, an ellipse, and so forth, or a freely drawn form that cannot be reduced to a geometrical principle)? . . . Have you noticed any kind of particular effect upon you of color? Was this effect physical or psychological?

Also included are questions of a directly associative kind:

> How does . . . a triangle seem to you—does it seem to move, and if so, to where, does it seem wittier to you than a square; is your feeling about the triangle similar to your feeling about a lemon; which is closer to the singing of a canary—a triangle or a circle; which geometric form is closer to vulgarity *[meshchanstvo]*, to talent, to good weather, and so on and so forth.[25]

This last run of questions does nothing to convince Kandinsky's colleagues of the "scientific" nature of his endeavor, however. Instead, it increasingly starts to look as if Kandinsky's research objectives for the INKhUK have been overdetermined by the pictorial concerns of his breathtaking 1913 Munich *Compositions*—a series of large-scale oils consisting of abstract and quasi-abstract forms. In *Text of an Artist,* Kandinsky defines the "compositional manner" of painting—which he relates to music—as a mode in which "the work springs mainly or exclusively 'out of the artist.'"[26] At the *Nineteenth State Exhibition (XIX Gosudarstvennaia vystavka),* which opens in Moscow in October 1920, he exhibits a new series of *Compositions*—the culmination of the process begun in Munich—including *In Grey* (1919; fig. 20), which he later describes as "the conclusion of my 'dramatic' period, i.e., of the very thick accumulation of so many forms."[27] For Kandinsky, the scene of forms—the compositional relation of pictorial elements—is motivated by what he calls "inner necessity." In a letter to the American collector and critic Arthur Jerome Eddy, for example, Kandinsky describes the state of "strong inner tension" in which he painted *Improvisation no. 30* (1913), a canvas from the Munich series: "So intensively did I feel the necessity of some of the forms, that I remember having given loud-voiced directions to myself, as for instance: 'But the corners must be heavy!'"[28]

Both within the INKhUK and elsewhere, enthusiasm for Kandinsky's pictorial concerns is far from unanimous. As early as 1919, the influential critic Nikolai Punin, a key IZO Narkompros bureaucrat and later a major proselytizer for Vladimir Tatlin, attacks Kandinsky's theory and practice as articulated in *Text of an Artist:* "Down with Kandinsky! Down!"

20 Vasily Kandinsky. *In Grey.* 1919. Oil on canvas. 129 × 176 cm. Musée National d'Art Moderne, Centre Georges Pompidou, Paris. Photograph © 2005 Artists Rights Society (ARS), New York / ADAGP, Paris.

Punin exclaims, "Everything in his art is accidental and individualistic."[29] Throughout the fall of 1920, a group of younger artists within the INKhUK—spearheaded by Rodchenko and Stepanova (who thus bring to a close their alliance with the director)—criticize Kandinsky's approach as a pseudoscientific masking of the subjective character of his concerns. "Kandinsky's psychologism," a 1923 report on the INKhUK's activities tells us, "radically conflicted with the views of those who defended the material, self-sufficient 'Object' *[material'nuiu samodovleiushchuiu 'Veshch']* as the substance of their work."[30]

In November 1920, Rodchenko and Stepanova, along with the nonobjective painters Liubov' Popova and Varvara Bubnova, establish themselves as the Working Group of Objective Analysis (Rabochaia gruppa ob"ektivnogo analiz), in explicit contestation of Kandinsky's continuing control of the institute. "The INKhUK has totally 'kandinskified' *['okandinskilsia']*," Stepanova writes in her diary on November 25, 1920. "[Its] method of work . . . has reached the *ne plus ultra* of spontaneous creativity. . . . Everything is transformed into

an elusive emotion, into a spiritual necessity, that is quite impossible to characterize or express . . . in words. We, formalists and materialists, have decided to launch a schism [*sdelat' vzryv*, lit. "make an explosion"] by founding a special group for objective analysis, from which Kandinsky and [the musician Nadezhda] Briusova are running away, like the devil from incense."[31] In the new year, this Working Group of Objective Analysis will expand to include about twenty-five young artists and theoreticians.

MEDIUM-SPECIFICITY: THE WORKING GROUP OF OBJECTIVE ANALYSIS

In defining the main task of the Working Group of Objective Analysis as the "theoretical analysis of the basic elements of a work of art," and "not the psychology of . . . creation, nor the psychology of aesthetic perception, nor the historical, cultural, sociological, or other problems of art,"[32] Tarabukin underscores the group's opposition to Kandinsky's program for the INKhUK. In fact, he formulates the group's methodology in terms that resonate with those of the Russian formalists: The OPOIAZ theoretician Boris Eikhenbaum asserts, "We do not incorporate into our work issues involving biography or the psychology of creativity."[33] Instead, the so-called formal method elaborated in the OPOIAZ and the MLK in the later 1910s and early 1920s seeks to define the "literariness" of literature—that quality or factor that defines the language of verse or prose as literary and distinguishes it from other kinds of verbal expression.[34] The Working Group's version of this question is: What factors define painting's "painterliness" *(zhivopisnost')*?

The Working Group holds its meetings at the MZhK on Friday evenings. (Meanwhile, the now much-reduced Section for Monumental Art continues to meet—at least until the resignation of its members from the INKhUK in late January 1921[35]—on Wednesdays at the Kandinskys' apartment on Dolgii *pereulok*.) At its first organizational meeting, on November 23, 1920, Bubnova defines the Working Group's task as twofold:

> (a) the objective analysis of works of art for the revelation *[vskrytiia]* of their elements (fundamental and supplementary *[osnovnykh i privkhodiashchikh]*), and the laws of their organization;
> (b) the analysis of elements and the laws of their organization in works of art.[36]

As a bald statement of the essentialism or ontological reduction of the group's endeavor—its desire to distinguish the fundamental from the merely supplementary—Bubnova's formulation is not dissimilar from that of Kandinsky. But Bubnova diverges from Kandinsky not only in abandoning his emphasis on the psychology of perception, but also by proposing that "analysis" replace "expression" as the goal of artistic practice, *tout court*. Both production and consumption are, henceforth, to be conducted under the sign of the analytical.

21 View of *Nineteenth State Exhibition*, with work by Aleksandr Rodchenko. 11 Bol'shaia Dmitrovka, Moscow. October–December 1920. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

Like the Suprematists and other nonobjective painters before them, the Working Group defines the fundamental or essential elements in painting as "form, color, [and] material *(faktura)*" *(form, tsvet, material [faktura])*. When it turns to define the supplementary or nonessential elements in painting, its reasoning is again characteristic of any Suprematist or nonobjectivist: The most evidently supplementary element in painting is designated as "representation" (*izobrazitel'nost'*, which should be understood here in the narrow sense of resemblance or figuration). To this familiar modernist attack on mimesis, however, is now added another allegedly supplementary element: the expression of "emotion" (43). This addition is a clear strike against Kandinsky's expression of, as El Lissitzky later sneers, "the state of his soul at any moment by stenographic splotches of colour."[37]

With the exception of this last point concerning the expression of emotion, nothing said so far goes beyond the general principles of nonobjective painting developed in the five years since Malevich's launch of Suprematism at *0.10: The Last Futurist Exhibition* in 1915 and most recently triumphantly declared by Rodchenko and Popova at the *Nineteenth State Exhibition* of October 1920 (fig. 21)—the same exhibition in which Kandinsky presents the culmination of his *Compositions*. Where we do have something new, however, is in the group's insistence on an objective analysis of the range of *laws* by which the essential and supplementary elements of painting are *organized*. Why this insistence? In short, having declared the redundancy of both representation *and* the expression of emotion, the group is obliged to confront the question that all nonexpressionist abstract artists of the 1920s will eventually confront—namely, as Bois puts it in a related context, "what is the mode of existence

of the work of art once its expressive function has been discarded?"[38] In other words, what *motivates,* or justifies, its particular organization? What prevents the work of art from slipping into a merely arbitrary arrangement of random pictorial elements? In order to grapple with this problem, the Working Group isolates for analysis three organizational principles in painting: "composition, construction, and rhythm *[ritm]*" (43).

HISTORICIZING MEDIUM-SPECIFICITY: IN THE GALLERIES OF SERGEI SHCHUKIN

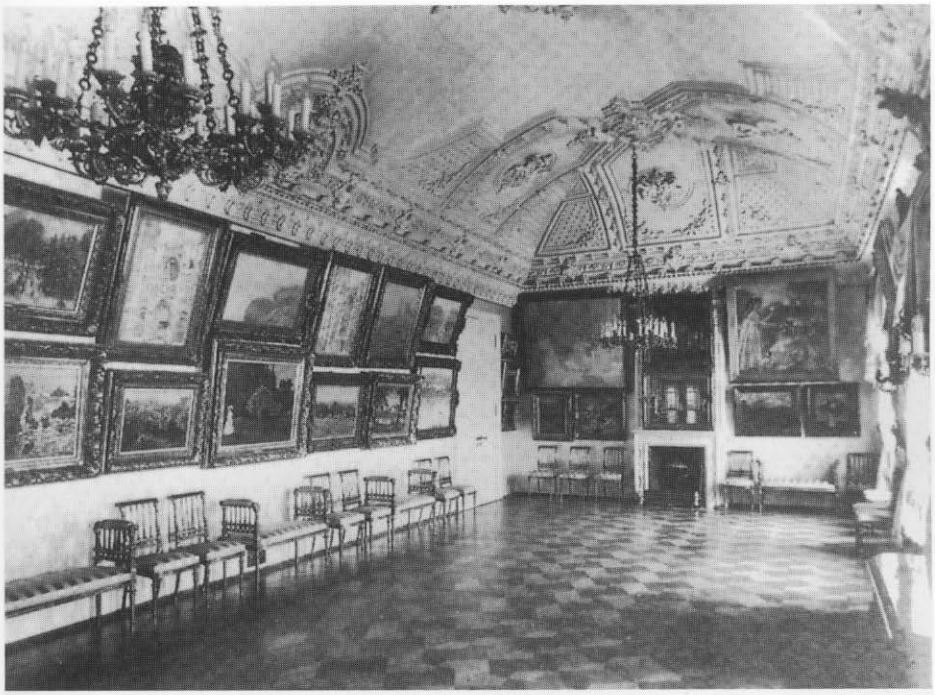
In December 1920, Bubnova, Popova, Rodchenko, and Stepanova are joined in the Working Group of Objective Analysis by the sculptor Babichev and the young spatial constructor Georgii Stenberg.[39] Together, the six artists set about situating within the history of modernist painting their current concern with medium-specificity. To this end, the Working Group decides at its second organizational meeting:

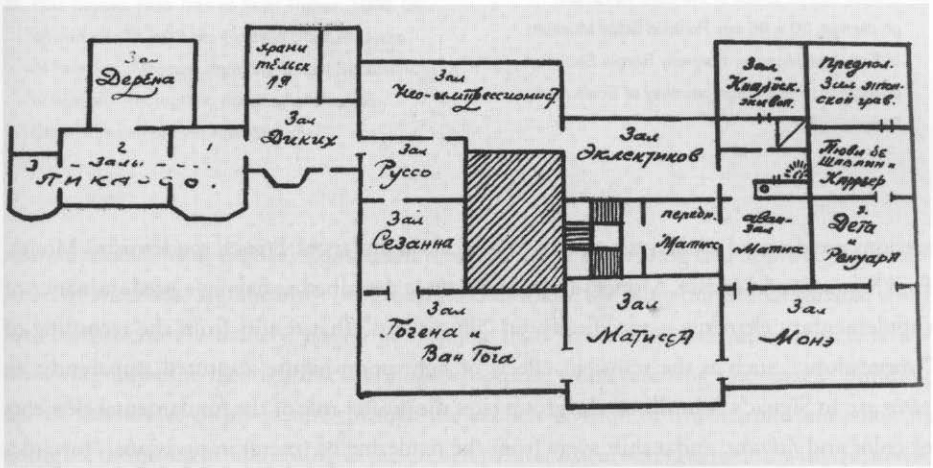
> [T]o begin the laboratory work of the group with an analysis of works of the new art. To conduct this analysis through a study [of the history of recent painting] movement by movement, beginning with Impressionism. . . . To conduct this analysis . . . in museums (43).

Accordingly, the group's December meetings are held in the Museum of New Western Painting, no. I (Pervyi muzei novoi zapadnoi zhivopisi), formerly the residence and collection of the textile merchant Sergei Shchukin.

Over the course of many business trips to Paris during the decade before the First World War, Shchukin acquired an extraordinarily rich collection of modern European (chiefly French) painting. Numerous photographs taken in his residence in 1913 reveal entire galleries devoted to, among others, Claude Monet and the Impressionists (fig. 22), Paul Cézanne, Paul Gauguin, Henri Matisse, and Pablo Picasso. Even before its nationalization by the state in 1918, the collection was well known among avant-garde circles because Shchukin opened his galleries to the public on Sundays from 1909 until the outbreak of the war, thus playing cicerone to scores of visitors over the years.[40] The Shchukin collection was widely celebrated: in a 1918 letter home, for example, Ioganson writes that "one can call Moscow, Paris: the painting gallery of Shchukin, with the most recent works of the French masters, provides a true understanding of the evolution of art in our century."[41] In the aftermath of the revolution, Shchukin's galleries continue to be a lively gathering place for artists and members of the intelligentsia. After its nationalization, the collection is reinstalled: a 1920 plan suggests that the full range of the original collection is probably accessible to the Working Group when it visits in December of that year (fig. 23).

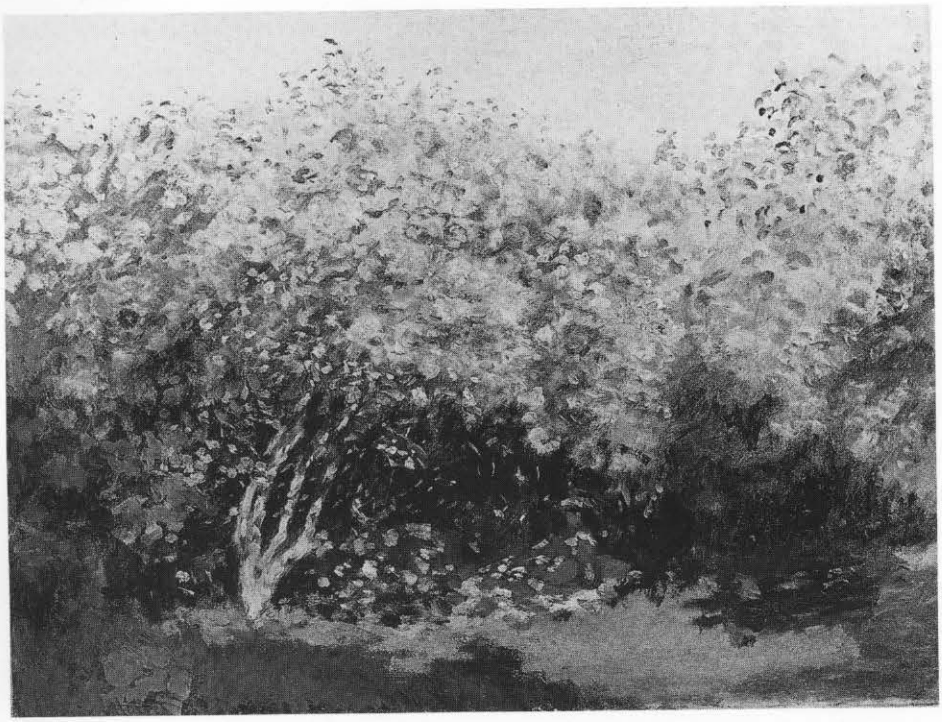
At its meetings, the group tests its provisional list of painting's fundamental and supplementary elements, and the laws of their organization, against the museum's canvases. Six





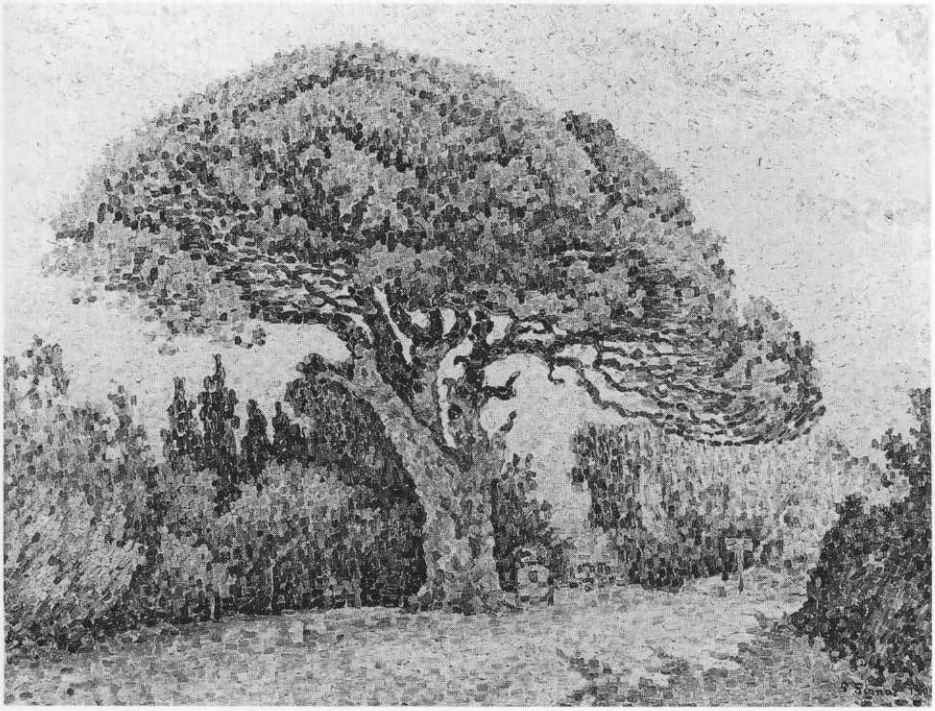
22 View of paintings by Claude Monet and the Impressionists in the Concert Hall, Sergei Shchukin residence, Moscow. 1913. Photographed by Orlov. Photograph courtesy of Pushkin State Museum of Fine Arts, Moscow.

23 Floor plan of the galleries in the former residence of Sergei Shchukin, Moscow. 1920. Photograph courtesy of Bank" Stolichnyi, Moscow.



24 Claude Monet. *Lilacs in the Sun.* 1872. Oil on canvas. 50 × 65 cm. Pushkin State Museum of Fine Arts, Moscow (formerly Sergei Shchukin collection). Photograph courtesy of Scala / Art Resource, NY.

sessions are devoted to analyzing three canonical exemplars of French modernism: Monet, Paul Signac, and Matisse. Monet's Impressionism is described as having a predominance of supplementary elements—specifically, an "illusoriness" that results from the recording of "impressions," such as the transient effects of light upon nature, captured, apparently, *en plein air.* In Signac's Pointillism, the group cites the greater role of the fundamental elements of color and *faktura,* and a shift away from the rendering of (mere) impressions, "toward a deliberate compositional construction" (*k namerennomu kompozitsionnomu postroeniiu,* 43)—the controlled division of color and brushstroke executed in the studio. (Specific titles are not cited in the stenographic records of these sessions, but one can imagine the group contrasting Monet's *Lilacs in the Sun* of 1872 [fig. 24] with Signac's *Pine Tree at Saint Tropez* of 1909 [fig. 25]. For Tarabukin—who, as mentioned at the outset of this chapter, believes that painterly content increases in inverse proportion to thematic content—the pairing of paintings sharing a common motif would minimize the distraction of the inessential—in this case, representation—in favor of an "objective" analysis of their differing laws of pictorial organization.) The group determines that Monet's work is organized exclusively by compo-



25 Paul Signac. *Pine Tree at Saint Tropez.* 1909. Oil on canvas. 72 × 92 cm. Pushkin State Museum of Fine Arts, Moscow (formerly Sergei Shchukin collection). Photograph courtesy of Pushkin State Museum of Fine Arts, Moscow.

sitional means, while Signac's Pointillism is organized by something that approximates constructive methods. Significantly, the group chooses to use the more traditional Russian word for "construction"—namely, *postroenie*—rather than the foreign derivative that it is endeavoring to define through discussion, *konstruktsiia,* when referring to Signac's "building up" of the surface of his picture through the explicit division of brushstroke and color. In doing so, the group avoids ceding to the French painter its current fascination with the newly fashionable foreign term. Finally, with regard to Matisse, the group acknowledges the presence of the fundamental elements of color and *faktura,* but determines that Matisse organizes his elements by rhythmic and compositional devices, rather than constructive ones (43). In short, of the three moderns, the group credits Signac with having come closest to the notion of construction, but apparently not quite close enough.

According to the stenographic records, then, the Working Group believes that the principle of construction is nowhere to be found in the former Shchukin collection. In retrospect, this is somewhat surprising, given that, in the modernist histories published by Tarabukin and fellow INKhUK theoretician Boris Arvatov just a few years later, two artists

26 View of paintings by Pablo Picasso in Sergei Shchukin's study, Shchukin residence, Moscow. 1913. Photographed by Orlov. Photograph courtesy of Pushkin State Museum of Fine Arts, Moscow.

extremely well represented in Shchukin's collection—Cézanne and Picasso (fig. 26)—are identified as the bearers of a "constructive" tradition counterposed to Impressionism and Expressionism.[42] The absence of any recorded discussion of, say, Cézanne's *Mont Sainte-Victoire* (1904–05)[43] or Picasso's early Cubist canvases suggests, therefore, a certain blindness in the group's endeavor, constitutive of the ambivalence of the avant-garde: on the one hand, the necessity to locate itself in the recent past, but, on the other, the demand to constitute its own activity as a *tabula rasa.* (This tension may also account for the scant attention in the debate's proceedings to Tatlin's 1915 counter-reliefs, or his very recent *Monument to the Third International* [1920]. Tatlin is mentioned only once in the records, and inconsequentially at that, which is most surprising given his fundamental role in the elaboration of specifically constructive modes of making, particularly his role as the Russian avant-garde's point person, as it were, for Picasso's constructed sculpture of 1912–15.[44])

In any case, having decided that the organizational principle of construction is absent in the history of modernist painting, the Working Group finally formulates its task for the new year: the "analysis of the concepts of construction and composition and the factor of their delimitation" (*analiz poniatii konstruktsii i kompozitsii i moment ikh razgranichenii,* 44).[45]

DIFFERENTIATING COMPOSITION AND CONSTRUCTION

The immediate genesis of the composition-versus-construction debate is thus an intense if selective scrutiny of the history of modern French painting. But the debate proper—the nine sessions of which are held over winter and early spring 1921—on January 1, 21, and 28, February 11 and 18, March 4, 18, and 25, and April 22—focuses on the existence of the two principles in contemporary *Russian* art. Just as the Museum of New Western Painting was the site of the group's investigation into French painting, the MZhK now serves as the testing ground for the Working Group's hypotheses. Present at the first session on January 1 are Stepanova, Rodchenko, Babichev, Popova, Bubnova, Briusova, Krinskii, and the painters Nadezhda Udal'tsova and Aleksandr Drevin.

The major preoccupation of the first session is whether or not a distinction needs to be drawn between "artistic" and "technical" (or "engineering") construction. Does the Working Group need to acknowledge that the principle of construction might vary according to the particular realm—art or engineering—in which it is invoked? Or should it endeavor to define construction without respect to the particular realm of its articulation? The painters Bubnova, Drevin, and Popova immediately insist on the necessity of distinguishing between artistic and technical construction. The sculptor Babichev follows suit, insisting on a distinction between laws of "plastic necessity" and those of "mechanical necessity" (49).[46]

Rodchenko is against this distinction: "There is only one kind of construction," he declares, defining "laid-bare construction" *(obnazhennaia konstruktsiia)* as the organization of a work's elements and materials according to a purpose or goal *(tsel')*. Composition, he asserts, is the lack of such purposeful organization—it is merely a matter of the maker's tasteful selection of particular components (45). Rodchenko argues that his definition of construction is applicable irrespective of discipline or medium. (The flip side of Rodchenko's general insistence on medium-specificity is evident here—namely, his abiding interest in a synthesis of painting, sculpture, and architecture, which dates back to his involvement with the Zhivskul'ptarkh [Painting-Sculpture-Architecture] group in 1919–20.) By the end of this first session, Rodchenko's opinion holds sway. Henceforth, the Working Group admits no further distinction between artistic and technical construction.

When the group reconvenes for its second session, on January 22, it has grown to include the spatial constructors Ioganson, Medunetskii, and Georgii Stenberg (the latter of whom participated in the December sessions at the Museum of New Western Painting), the sculptor Boris Korolev, the painters Ivan Kliun and Natan Al'tman, and the VKhUTEMAS architect Nikolai Ladovskii (46). Ladovskii's entrance into the debate is crucial, for he provides the group with what becomes its most important working definition: "Technical construction," Ladovskii proposes, "is a combination of shaped material elements according to a given plan or design for the production of a force effect. . . . The chief indication of construction is that there must be no superfluous materials or elements *[ne dolzhno byt' lishnikh materialov i elementov]*." By contrast, "the chief distinguishing mark of composi-

tion," he asserts, "is the hierarchy, coordination [of its elements]" (47).[47] While Ladovskii does not explicitly connect "hierarchy" and "coordination" to the presence of "superfluous elements," their association in the minds of the majority of participants comes increasingly to the fore as the discussion continues.

Ladovskii's delimitation of composition and *technical* construction in terms of the presence or absence of superfluous elements is adopted by the group as its working hypothesis for the delimitation of composition and construction in general. Over the course of the next four months, the group tests Ladovskii's definition of construction over and over again through analyses of paintings and spatial works, but never with regard to works of architecture or engineering structures. Instead, the injunction laid before architecture by engineering in the late nineteenth century is now laid before painting itself. Rodchenko urges: "We must proceed according to the definition of engineering construction and verify whether, in these terms, there exists in painting true construction, and not just an approximation of it" (51).

In accordance with Rodchenko's forceful urging, the overwhelming preoccupation of the debate, at least through its sixth session, is to determine whether or not construction can, in fact, exist in *painting*. The group analyzes works in the MZhK by such diverse artists as Abram Arkhipov, Kandinsky, Petr Konchalovskii, Konstantin Korovin, Nikolai Krymov, Malevich, Medunetskii, Aleksei Morgunov, Pavel Naumov, Rodchenko, Ol'ga Rozanova, and Stepanova. Beyond citing their works as subjects of analysis, the records make no further mention of the figurative painters on this list. In considering the works of the nonobjectivists, the group determines that compositional elements are found in the work of Kandinsky, Malevich, Medunetskii, Morgunov, Rozanova, and Stepanova, but that there is also an "aspiration" to construction. Only Rodchenko's *Two Circles* (an oil painting now unfortunately lost) is deemed by the majority of the group (although, significantly, not by the artist himself) as constructive—that is, as without superfluous elements (47–49, 53).

By the debate's seventh session, on March 28, Ioganson, Medunetskii, Rodchenko, the Stenbergs, and Stepanova—in other words, all the members of the newly emergent Constructivist faction within the Working Group—begin to argue that construction, as an organizational principle, cannot exist in painting after all, but only in three-dimensional forms. In declaring that painting and construction are mutually exclusive, however, not all members of the Constructivist faction also hold that three-dimensional work and construction are necessarily mutually *in*clusive. That is to say, for some Constructivists, three-dimensionality is a necessary, but not sufficient, condition for the existence of construction. Therefore, even with the eventual elimination of painting from the terms of the discussion, the concept of construction continues to elude precise definition. In an attempt finally to come to grips with construction, and its difference from composition, the Working Group decides that each of the debate's participants should submit paired drawings *demonstrating* that difference.

Present at the final session of the debate, on April 22, are fifteen members of the Working Group of Objective Analysis: Babichev, Bubnova, Drevin, Ioganson, Korolev, Krinskii, Ladovskii, Medunetskii, Popova, Rodchenko, Georgii Stenberg, Vladimir Stenberg, Stepanova, Tarabukin, and Udal'tsova (61). Each participant submits a pair of drawings for group discussion. It is intended that each pair will demonstrate its maker's delimitation of the principles of composition and construction, with specific attention to the factor or factors distinguishing one from the other. Drawings are also submitted by two artists who are not present at the final session: Kliun and Shterenberg. Of the thirty-four submitted drawings, twenty are preserved in the Costakis portfolio. One other—Popova's construction drawing—was given by Costakis to the State Tret'iakov Gallery (Gosudarstvennaia Tret'iakovskaia galereia), Moscow, upon his emigration to Greece. Of the remaining thirteen drawings, four were withdrawn by their makers after the final session for reworking and nine are unaccounted for.

Of the surviving drawings, I will focus on those submitted by five of the seven members of the newly formed faction—the Working Group of Constructivists—which meets for the first time as a separate group on March 18, 1921, a month or so *before* the debate's final session.[48] These five are: Vladimir Stenberg, Medunetskii, Stepanova, Rodchenko, and Ioganson. (Georgii Stenberg's drawings have not been located, and Gan is not a participant in the debate.) In the following analysis, I will argue that despite the Constructivists' adherence to a common platform—the "Program of the Working Group of Constructivists" ("Programma rabochei gruppy konstruktivistov"), to which all seven are signatories—their drawings articulate radically divergent perspectives on how to delimit composition from construction. Instead of describing a single, unified Constructivist position on the problem, I will endeavor to demonstrate the existence of at least *five* different Constructivist positions.

The Dimensionality Thesis of Vladimir Stenberg and Konstantin Medunetskii

The first position delimits composition and construction exclusively by virtue of the dimensionality of a given work: A two-dimensional work is a composition; a three-dimensional one, a construction. To this first position, which I call the dimensionality thesis, belong the drawings by the two youngest members of the Constructivist group, Vladimir Stenberg and Medunetskii. In these drawings, the presence of superfluous elements is presented as a condition intrinsic to painting, thereby ruling out the possibility of construction in that medium.

Stenberg's *Composition* (plate 1) consists of loosely geometric elements modeled in soft blue and orange pencil, arranged according to a curvilinear rhythm in an ambiguously defined planar space. By contrast, his *Construction* (fig. 15)—a preparatory drawing for the artist's towering *KPS VI,* which occupies the center of the Society of Young Artists (Obshchestvo

molodykh khudozhnikov; OBMOKhU) exhibition of May–June 1921 (see figs. 31, 32, 64)—presents the hard contours of an engineer's draft. In Stenberg's paired drawings, composition is linked with the traditional art of the painter, while construction is aligned with the structural art of the engineer. His *Construction* reduces the principle to a matter of built structure alone—that is, it fails to articulate the principle of construction *qua* principle. (Furthermore, it fails to negotiate the INKhUK's prevailing discourse of nonobjectivity, since it is a *representation* of a construction on a two-dimensional surface and, as such, "supplementary" in and of itself. This is true also of some of the other submitted works, as we shall see.)

Medunetskii's drawings articulate a comparable dimensionality thesis. "From the point of view of technical construction," the artist argues, the work of art will always contain "superfluous elements" and hence cannot admit of construction (49). In his *Composition* (plate 2), in orange crayon and pencil, Medunetskii renders the pictorial elements in such a way that they lack the kind of definition requisite for a built structure, even literally "framing" the scene of forms as a picture. To this composition-as-picture, Medunetskii contrasts *Design for a Construction* (plate 3), a rendering in sepia drafting ink for a three-dimensional spatial work.

In order to distinguish construction from composition, therefore, Stenberg and Medunetskii both deploy conventionally opposed drawing materials (drafting ink versus crayons and soft pencils) as well as an equally conventional dichotomy of rendering (sharp contour versus predominance of modeling). Each artist thus relies on a very old dichotomy of contour and chiaroscuro in order to delimit construction and composition: "construction" is figured by a rigorous and substantive contour line, which is lost in the chiaroscuro and stippling of "composition," which, in turn, transforms drawing into a kind of painting, a coloring-in or coordination of surface rather than its crisp delineation.

But by 1921 this old dichotomy is already exhausted. Malevich's Suprematism, for example, has freed form from contour line by defining form by planes of color, also liberating color from its previous condition of mere supplementarity.[49] Stenberg and Medunetskii simply turn back the modernist clock to which they are otherwise committed. Dependent as they are upon conventional dichotomies of draftsmanship, neither pair of drawings contrasts the two principles *qua* principles. Instead, the respective organizational logics of composition and construction are subsumed into a differentiation of the rhetorics of drawing. The particular opposition under scrutiny in the debate is thus displaced, rather than defined.

From the point of view of rhetorical efficacy, the dimensionality thesis is, I would argue, the weakest delimitation of composition and construction advanced during the course of the debate. As noted at the outset, however, histories of Constructivism have, in focusing on the question of the shift in media—from two to three dimensions—generally advanced this thesis as the debate's significant achievement. In foregrounding the following four positions, I will endeavor to restore to the composition-versus-construction debate something of its original complexity.

The Organic-Unity Thesis of Varvara Stepanova

Various statements made by Stepanova toward the end of the debate indicate that, like her fellow Constructivists, she eventually concedes that construction cannot be attained in a two-dimensional work. At the eighth session, of March 25, for example, she rejects the possibility of pictorial construction, advancing instead a theory of the artist's temporal progression through three principles or stages: composition, structure *(postroenie)*, and construction. The final stage, that of construction, "on the brink of which we stand," Stepanova argues, "is connected with the actual making of an object, without representation, without contemplation, without any conscious relationship to nature on the part of the artist. Construction is the creation of an utterly new organism. Genuine construction cannot exist in painting, only an aspiration toward it, or the representation of it. Genuine construction exists only in real things that occupy actual space. I think of the object as a new form that does not exist in nature" (60).

Yet at the final session, on April 22, Stepanova submits two works on paper that suggest that she believes that construction can, in fact, be attained in a two-dimensional work. We have, therefore, an inconsistency, but a productive one. I would argue that Stepanova advances a thesis of organic unity in these drawings, a thesis that she has been carefully developing through the course of the debate and that is shared by a number of other participants. To demonstrate the principle of composition, Stepanova submits a gouache drawing of an upper torso entitled *Example of a Composition* (plate 4); for construction, a collage of papers and photographs entitled *Planar Structure* (plate 5). (Both works—which are undated—stem from avenues that Stepanova has been exploring during the preceding year: an extensive oil and watercolor series entitled *Figures,* and the collage syntheses of nonobjective images and poetry in handmade books such as *Gaust chaba.*)

At first glance, these two drawings appear to be another instance of the deployment of conventionally opposed materials and modes of making: gouache is traditionally associated with the fine arts, whereas collage, which has strong mechanical associations in avant-garde circles in the 1920s, signifies the realm of the assembler or engineer more than that of the fine artist. This is especially the case in Russia, where *konstruktor* means not only "constructor," but also "engineer"—a significance lost, as Alla Efimova and Lev Manovich point out, in the word's translation into English.[50] Or perhaps, in contrasting a human figure with a Suprematist-style collage (consisting of overlapped planimetric forms oriented diagonally and anchored to the sheet by two black horizontals), Stepanova's drawings simply rehearse another older polemic—namely, the dichotomy of figuration and nonobjectivity that Malevich's Suprematism pushed to the forefront in 1915.

Notwithstanding these possible first impressions, Stepanova's position—as it is articulated in these drawings—critically differs from that of Stenberg and Medunetskii in that it asserts the existence of, and attempts to define, the principle of construction within two-dimensional works of art. In fact, Stepanova's major concern during the course of the debate is not

the problem of dimensionality, but the elimination of excess. Early in the proceedings, for example, she offers a gloss on Ladovskii's foundational definition:

> Only construction demands the absence of both excess materials and excess elements. In composition, exactly the opposite is the case—there, everything is based upon excess. . . . The little flower on the side of a teacup is absolutely unnecessary for its constructive purposefulness, but it is needed as a tasteful element, as a compositional element. The greater the number of excess materials and excess elements that a composition has at its disposal, the subtler it is with respect to matters of taste and the more clearly it differentiates itself from construction (49).

The significance—or integrity—of a composition remains intact, Stepanova goes on to argue, even if one or two of its elements are removed. Because a composition contains superfluous elements—elements that are predicated only on tasteful judgment—slight alterations in the disposition and balance of its elements do not destroy the significance of the whole; rather, such alterations simply demand of the artist some judicious rearrangement of the remaining elements, or perhaps the addition of new ones. The rudimentary anthropomorphism of *Example of a Composition,* for example, could sustain myriad minor alterations to its pictorial elements—in their color, line, and proportion—yet the drawing could still retain its original significance as the representation of a human figure.

By contrast, with the principle of construction, where there can be no excessive or superfluous elements, the absolute reverse is the case. Stepanova argues:

> A mark of constructiveness is the *organic way* in which constituent parts are linked together. Even the most insignificant change in any of the parts leads to the destruction of the entire construction.[51]

Because the constituent parts of a construction are linked together in an *organic,* that is, in an essential or necessary, way, its sense—or, again, its integrity—will be destroyed if it is altered in any way, even if only a single element is changed. The principle of construction is defined here as the organic unity of a work's constituent elements, a unity that can potentially obtain, Stepanova argues, in both two and three dimensions. But how does *Planar Structure,* a collage of typographic, photographic, and colored papers, articulate Stepanova's definition of construction as organic unity? The answer has to do with the relational logic of the collage medium, in which significance is obtained relationally between constituent elements and not in those elements themselves—hence, the removal of any single element will destroy the significance, or integrity, of the collage itself.

While Stepanova's organic-unity thesis constitutes a more complex delimitation than the dimensionality thesis, it is challenged by other participants in the debate, who argue that organic unity is common to *both* composition and construction and thus cannot serve to distinguish them. Drevin, for example, argues that "there can be an 'organic link' also among

the parts of a composition" (59). There is substance to Drevin's criticism, for the notion of organic unity is fundamental to classical and romantic theories of composition (or of the work of art in general)—and thus cannot be confined, or held to be specific, to the principle of construction alone. With regard to the unity of epic plots, for example, Aristotle writes: "the structural union of the parts [of a plot is] such that, if any one of them is displaced or removed, the whole will be disjointed and disturbed. For a thing whose presence or absence makes no visible difference, is not an organic part of the whole."[52]

In his often-cited *What Is Art?* (*Chto takoe iskusstvo?*, 1898), Lev Tolstoy reiterates Aristotle's argument in the context of a polemical attack on Richard Wagner: "The chief characteristic of every true work of art . . . [is] such entirety and completeness that the smallest alteration in its form would disturb the meaning of the whole work. In a true work of art—poem, drama, picture, song, or symphony—it is impossible to extract one line, one scene, one figure, or one bar from its place and put it in another without violating *[ne narushiv]* the significance of the whole work; just as it is impossible, without violating the life of an organic being, to extract an organ from one place and insert it in another."[53]

Closer to home, Al'tman—one of the debate's participants—adopts the Aristotelian definition of composition in his argument for the "collective basis" *(kollektivisticheskie osnovy)* of the futurist picture. In December 1918, in the pages of *Iskusstvo kommuny* (Art of the commune)—a weekly newspaper published by IZO Narkompros and read widely in avant-garde circles—Al'tman argues that a futurist picture "cannot be taken apart. Indeed, if any part is removed from a futurist picture, then [that part] will be meaningless *[budet predstavliat' soboi bessmyslitsu]*. For each part . . . derives its meaning only in relation to all the other parts; solely in conjunction with these does each part obtain that significance that the artist afforded it."[54]

A further influential articulation of the notion of organic unity in composition, and the damaging effect of the superfluous, was made by Matisse—one of the artists whose work was analyzed by the Working Group at the Museum of New Western Painting in December. Summarizing a 1907 interview with the artist, Guillaume Apollinaire describes Matisse's compositional practice in precisely the same way that Stepanova defines construction:

> Matisse *constructs [échafaude]* his conceptions . . . until they become logical and form a closed composition from which one could not remove a single color or line without reducing the whole to a haphazard meeting of several lines and colors.[55]

In a special issue devoted to Matisse in 1909, the Moscow journal *Zolotoe runo* (Golden fleece) translated into Russian Matisse's major early theoretical statement about his work, the 1908 "Notes d'un peintre,"[56] in which Matisse argues that a composition is perfected only when every element in it has a strict utility that contributes to the work's overall coherence. The critic Alexandre Mercereau's introductory preface to the translation explicates Matisse's argument:

> The painting's unity is . . . expressed by the way form and color find themselves in such a tight co-relationship that it is impossible to violate the harmony of one without violating the harmony of the other. Any alteration in one part must absolutely be accompanied by the harmony of the other. . . . [N]othing fastens the viewer's gaze on one detail to the detriment of another . . . the composition is always subordinate to the size of the canvas.[57]

Considering Stepanova's organic-unity thesis in light of these various statements about composition, I would argue that her position is more or less a recycling of the Aristotelian definition of composition as, now, the *desideratum* of construction.[58] In that sense, and notwithstanding its complexity, Stepanova's thesis ultimately fails to delimit the principles of composition and construction.

The Utilitarian Thesis of Aleksandr Rodchenko

During the course of the debate, Rodchenko formulates two radically different positions on the delimitation of composition and construction: a utilitarian thesis and a nascent theory of deductive structure (discussed in the following section). Unfortunately, of Rodchenko's two drawings, the Costakis portfolio contains only *Composition* (plate 6); his construction drawing is missing. *Composition* is one of a series of twenty related designs for wall lamps that Rodchenko made while working in 1917 on the conversion of the Moscow Kafe Pittoresque into an extravagant futurist environment. In these designs, simple geometric volumes—cones, spheres, slender cylinders, and curling bands—were mounted on the wall in dynamic configurations. Some lamps were designed to provide diffuse illumination, while others, like that in the Costakis drawing, were to emit a narrow, directional beam of light.[59]

While Rodchenko's missing "construction" drawing has not been securely identified,[60] Rodchenko himself describes it as another "design for a lamp" (65). The fact that both of Rodchenko's submitted drawings are lamp designs indicates, on the one hand, the artist's preoccupation with "real space" and utilitarian function (56); on the other hand, it suggests that, for Rodchenko, neither real space nor utilitarian function is the guarantor of construction, but rather only its necessary condition. This point is borne out by a comparison Rodchenko draws between compositional and constructive lamp design:

> Let's take a lamp—together with all its embellishments and its base, it can be analyzed as a composition. There are, however, lamps that have been expediently constructed—that is, where the purpose and function of the lamp are made manifest *[vyiavleny]* in the most constructive manner possible. Such a lamp affords a unified construction without any aesthetic, compositional combination of its purpose with decorative effects. (51–52)

Contrary to Vladimir Stenberg and Medunetskii, therefore, Rodchenko argues that neither three-dimensionality nor functionalism—in and of itself—guarantees construction. A three-

dimensional, utilitarian object may be, in fact, fully compositional. Instead, Rodchenko defines construction, as noted above, as the existence of a purpose or goal in the organization of a work's elements and materials. Rodchenko's utilitarian thesis is thus not quite as simple as it might at first appear.

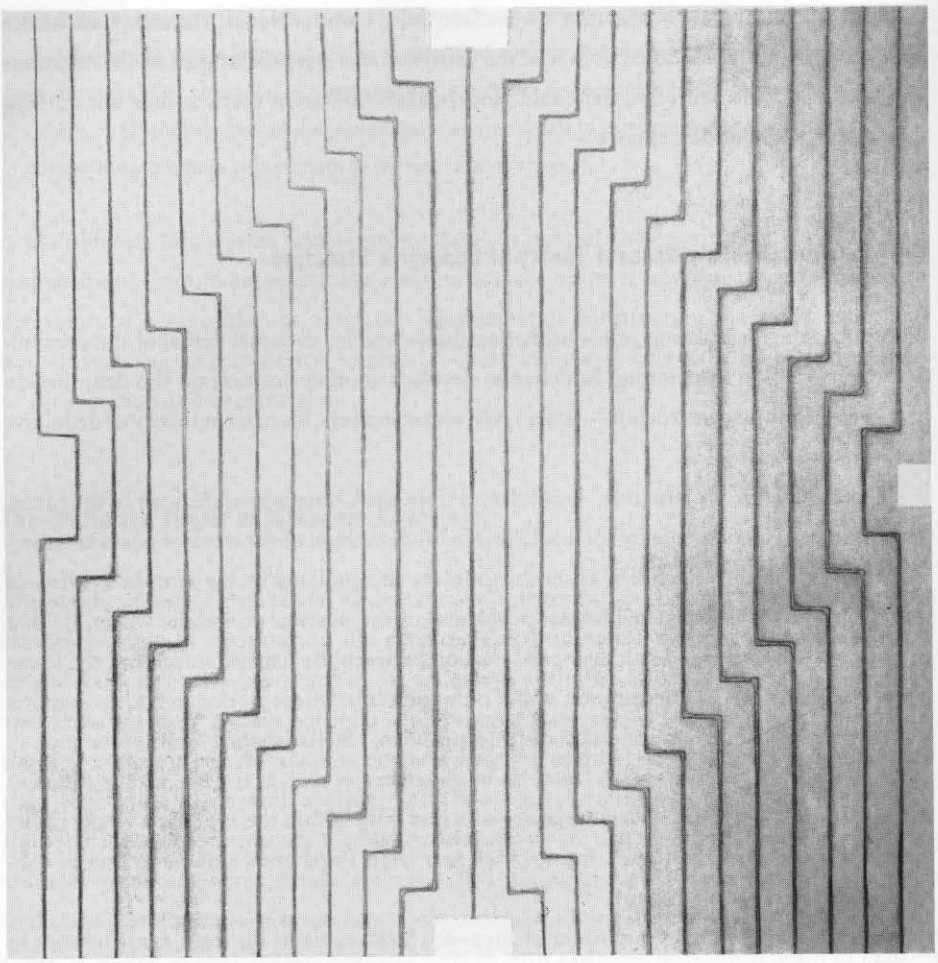
Aleksandr Rodchenko's Nascent Theory of Deductive Structure

En route to the formulation of his utilitarian thesis, and his eventual denial of the possibility of construction in painting, Rodchenko develops another position on the delimitation of composition and construction—what I call, retrospectively, his nascent theory of deductive structure.

The term "deductive structure" is not drawn from the Constructivist lexicon of the 1920s, but would be coined in 1964 by Michael Fried in his discussion of the work of postwar American abstract painters. Fried first raises the problem encapsulated by the term in a review of 1963: "One of the most crucial formal problems" of the postwar period, he writes, is "that of finding a self-aware and strictly logical relation between the painted image and the framing edge." Frank Stella, Fried argues, is the "only painter in whose work one finds an explicit and entirely self-aware confrontation of [this] problem." Stella's shaped "aluminum and . . . copper paintings," he continues, "came to be generated *in toto,* as it were, by the different shapes of the framing edges, and variation occurred only within the series as a whole rather than within a particular shape" (fig. 27).[61] A year later, Fried gives a name to Stella's confrontation: "deductive structure."[62]

In a lecture presented in the winter of 1959–60, Stella explains his work as an attempt to resolve what he calls the problem of "relational painting": "The painterly problems of what to put here and there and how to make it go with what was already there became more and more difficult and the solutions more and more unsatisfactory. . . . I had to do something about relational painting, i.e. the balancing of the various parts with and against each other."[63] Stella attributes the problem of relational painting to the "European geometric painters": "The basis of their whole idea is balance. You do something in one corner and you balance it with something in the other corner."[64] Apparently, the artist is unaware that his critique of relational composition has a long history in the work of the very artists to whom he attributes the problem.

In the entirely different historical circumstances of post–Civil War Russia, Rodchenko formulates a deductive logic comparable to that of Stella in order to distance himself from relational composition (Kandinsky's "But the corners must be heavy!"), and thereby arrive at a cogent definition of construction. I call Rodchenko's formulation a nascent theory, however—an expression borrowed from Gerald Holton[65]—in order to mark both the exploratory character of Rodchenko's articulation of this logic and the historical distance dividing his articulation from that of Stella.



27 Frank Stella. *Averroes.* 1960. Aluminum oil paint on canvas. 185.9 × 181.9 cm. Collection of Philip Johnson. Photograph courtesy of Philip Johnson.

What, then, is the evidence for Rodchenko's nascent theory of deductive structure? At the debate's second session, on January 21, Rodchenko divides pictorial construction into two moments:

> There are two moments in construction: [i] the construction of the forms themselves, independently of their disposition on the canvas, and [ii] the construction of the whole work *in accordance with the dimensions of the canvas [vmeste s razmerom kholsta].*[66]

In making *Two Circles* (deemed by the majority of the Working Group to be constructive), Rodchenko sought to collapse these two moments into one. Having chosen to work with

enamel paint, he realized that the pigment's liquidity prohibited working at the easel with a brush, and so he laid the canvas on the floor and poured. What fascinated Rodchenko was the radical reduction of his "interference" in the production of form (the circles) to the determination of only the flow's beginning and end—the rest was a "labor" of the liquidity of the pigment, the horizontality of the field, and the force of gravity (48–49). But there still remains, in *Two Circles,* the problem of the "dimensions of the canvas."

In attributing a generative role to the "dimensions of the canvas"—in the name of the principle of construction—Rodchenko is to some extent reiterating a central doctrine of modern compositional theory. In his "Notes," for example, Matisse writes that a composition will always have a "necessary relationship" to the size and shape of its support:

> If I take a sheet of paper of a given size, the drawing I trace on it will have a necessary relationship to its format. I would not repeat the drawing on the same sheet with different proportions, for example, a rectangular rather than a square sheet.[67]

Rodchenko and Matisse diverge, however, in their interest in the notion of the generative role of the ground. This divergence has to do with their respective objectives. For Matisse, the "aim of . . . [composition] should be expression."[68] By contrast, Rodchenko seeks the eradication of this expressive function: "Once the superfluous has been eliminated—i.e. its nature as an object, figurative image, *expression of a feeling,* aesthetics, etc.—there remains what is useful: the real painting."[69]

Furthermore, Rodchenko's problem is not only the necessary relation of composition and support:

> Pictorial construction in painting will always have something superfluous, the area of the canvas if nothing else. In my works there is not yet pure construction, instead there is constructive composition. . . . The ideal construction should have an immutable dimension of its own. . . . *what counts is the quadrangle of the canvas.*[70]

In this passage, Rodchenko both poses the problem of the superfluous space generated by the division of figure and ground and also, in its final clause, gestures toward its resolution. That is to say, if the support—the quadrangle of the canvas—could generate its figuration, then the division of figure and ground would be suspended, and any superfluous space thereby eliminated.

While both drawings submitted by Rodchenko during the debate pertain to his utilitarian thesis, an articulation of deductive structure is found elsewhere in Rodchenko's production—most forcefully in a series of hanging spatial works made during the months of the debate (figs. 35, 60–62)—discussed in the next chapter—in which Rodchenko brings his thesis to fruition. Four of the six works in the series, which is based on the principle of "similar figures" *(podobnye figury),*[71] are exhibited for the first time in the May–June 1921 OBMOKhU exhibition.

Rodchenko's theory of deductive structure enables his differentiation of construction from composition by eliminating the relational or hierarchical coordination of parts to whole that the Working Group deems characteristic of composition. "Construction," Rodchenko asserts, "is not just putting different parts together."[72] Rather, it is a deductive mode of generation in which, he declares, there is "[n]othing accidental, nothing not accounted for."[73] The artist's formulation is seconded and expanded by his fellow Constructivist Gan, who finds in Rodchenko's laboratory constructions "Nothing accidental, nothing not accounted for, nothing as a result of blind taste and aesthetic arbitrariness."[74]

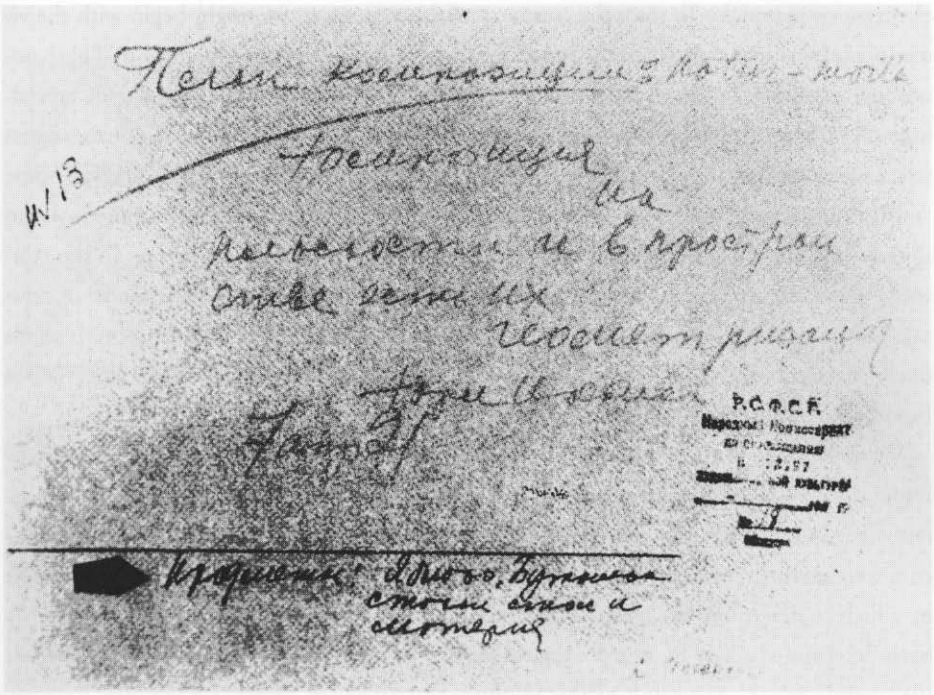
The Common-Denominator Strategy of Karl Ioganson

The fifth position—more a strategy than a thesis—is articulated by Ioganson. During the discussion of the submitted drawings at the final session, Ioganson asserts, with modernist impatience, that the Working Group has compromised both the essentialist and the historicist demands of its inquiry: "None of the drawings submitted are constructions or compositions—they are *only pictures [tol'ko kartiny]*" (64, emphasis added). In making "only pictures," the artist suggests, the group has backtracked to a moment before Suprematism's censure of representation. But what does Ioganson propose in place of mere pictures?

Without claiming to have entirely escaped a return to representation himself, Ioganson submits two schematic renderings: *Plan of a Composition: Natur-morte* (plate 7) and *Graphic Representation of a Construction* (plate 8). By articulating both principles in the same formal language—that of the diagram—Ioganson negotiates the delimitation of composition and construction as a "laboratory" task; in other words, this shared formal language provides Ioganson with a common denominator by means of which to articulate difference, thereby affording his drawings a rhetorical strength that is lacking in those that displace the delimitation of composition and construction onto conventional dichotomies of draftsmanship. Perhaps it is precisely because Ioganson does not rely on such obvious dichotomies that his drawings have seemed hermetic, and have been discussed in the literature only very awkwardly, if at all.

How, then, might these drawings be read? In *Plan of a Composition: Natur-morte,* an oblique pentagon drawn in red pencil and doubled on all sides but one, is set within another pentagon of the same proportions. If the larger pentagon's lines were continued beyond the limits of the field, they would intersect to form a five-pointed star. On its verso, in the artist's hand, appears the following inscription (fig. 28):

Plan of a composition: Natur-morte.
Composition
on



28 Karl Ioganson. Verso of *Plan of a Composition: Natur-morte*, April 7, 1921 (plate 7).

a plane or in space
is their geometricization.

This inscription is followed by Ioganson's signature and the date (April 7, 1921), underneath which the artist adds a pentagon-shaped notational symbol, followed by a list: "Objects: apple, bottle, glass, table, and cloth." The drawing can be read, therefore, as a schematic mapping of the compositional coordinates of a still life: three objects (apple, bottle, glass) arranged upon a fourth (tablecloth), which is laid over a fifth (table). Insofar as Ioganson presents a plan for the composition of a still life that may be realized in *either* planar or spatial terms, according to his verso inscription, he makes no prescription as to the dimensionality of composition. In other words, composition is not exclusive to the two-dimensional arts—it is also possible in three dimensions.

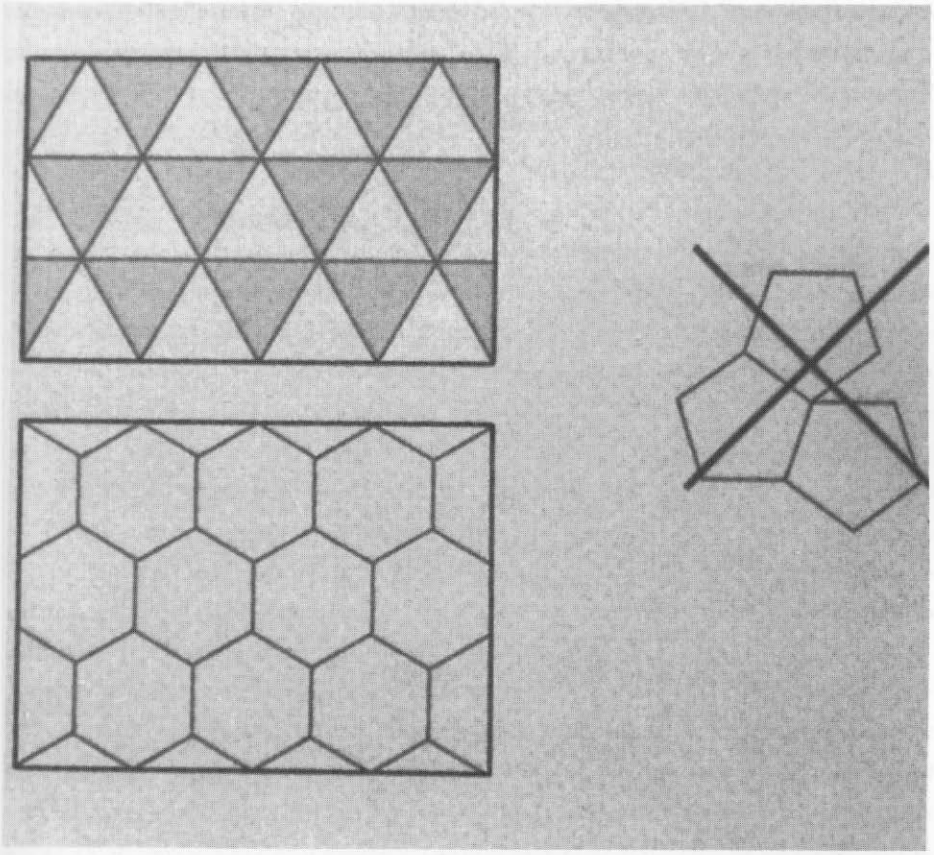
If the issue of dimensionality is not crucial to Ioganson's understanding of composition, as it is for Stenberg and Medunetskii, then what is? What does *Plan of a Composition: Natur-morte* articulate, in other words, apropos the principle of composition? I would suggest that this drawing presents the argument that the delimiting characteristic of composition is, as the Working Group defines it following Ladovskii, the presence of excessive or superfluous

elements or materials. To trace the contours of this argument, we might begin with the violet pentagons that punctuate the points of intersection in the outer pentagon. These notational markings appear to have been borrowed from the descriptive language of crystallography (the study of the structure of crystal solids), and it thus seems plausible to suggest that Loganson intends the viewer to read his drawing through the lens of this science. Some words of explanation are in order, but I should state in advance that my purpose is *not* to suggest that Loganson's composition represents some kind of crystal structure; to the contrary, his recourse to crystallography is, I would argue, a ruse: he engages the model of crystallographic symmetry precisely because that model *cannot* obtain in composition. It seems likely that crystallography has been discussed at the INKhUK by this time, since it was broached by Kandinsky in his inaugural program for the institute.[75]

While I have found no mention of crystallography in Loganson's writings or surviving correspondence, I note its more general significance in 1921: Although the study of crystallography began in the late eighteenth century, especially rapid advances in crystallographic science were made in the early 1910s. These include the discovery of X-ray diffraction, a means by which to determine the internal structure of a crystal (internal structure had previously been determined solely by morphological means, by deducing the internal structure from the crystal's faces). As a result of this monumental discovery, crystallography has become, by 1921, one of the hottest areas of scientific research, and it saturates the popular-scientific press.[76]

In crystallography, the conventional symbol used to mark the rotation of a crystal 360 degrees about an axis of symmetry drawn through its center is a micro version of the figure in question—in this case, a pentagon. Symmetry is the means by which the crystal's three-dimensional structure is mapped graphically in two dimensions, in terms of periodic pattern. The axes of symmetry that can form a space-filling pattern on a flat surface through a rotation of 360 degrees are two-, three-, four-, and sixfold but not, significantly, fivefold. For heuristic purposes, a modern textbook illustration may be useful here (fig. 29): When an equilateral triangle, square, or hexagon is periodically rotated through 360 degrees around its own center, a homogeneous filling of space—that is, a periodic pattern—is produced. Such homogeneous filling of space is not possible with a pentagon; if rotated, gaps form between the pentagonal faces. The pentagon is thus a geometric figure that cannot generate an allover periodic pattern: A space in excess of the original figure (the pentagon) always remains—a space that cannot be accounted for within the governing structure established by that figure. The schematic rendering of *Plan of a Composition: Natur-morte* thus articulates, I would argue, the very excess defined by the Working Group (following Ladovskii) as that which delimits composition from construction. In other words, Loganson presents not a picture—in the sense of the "only pictures" submitted by his colleagues—but rather a rhetorically efficacious model of the principle of composition.

To this model of excess, Loganson counterposes the equally schematic *Graphic Representation of a Construction.* In submitting this drawing, Loganson announces to his colleagues

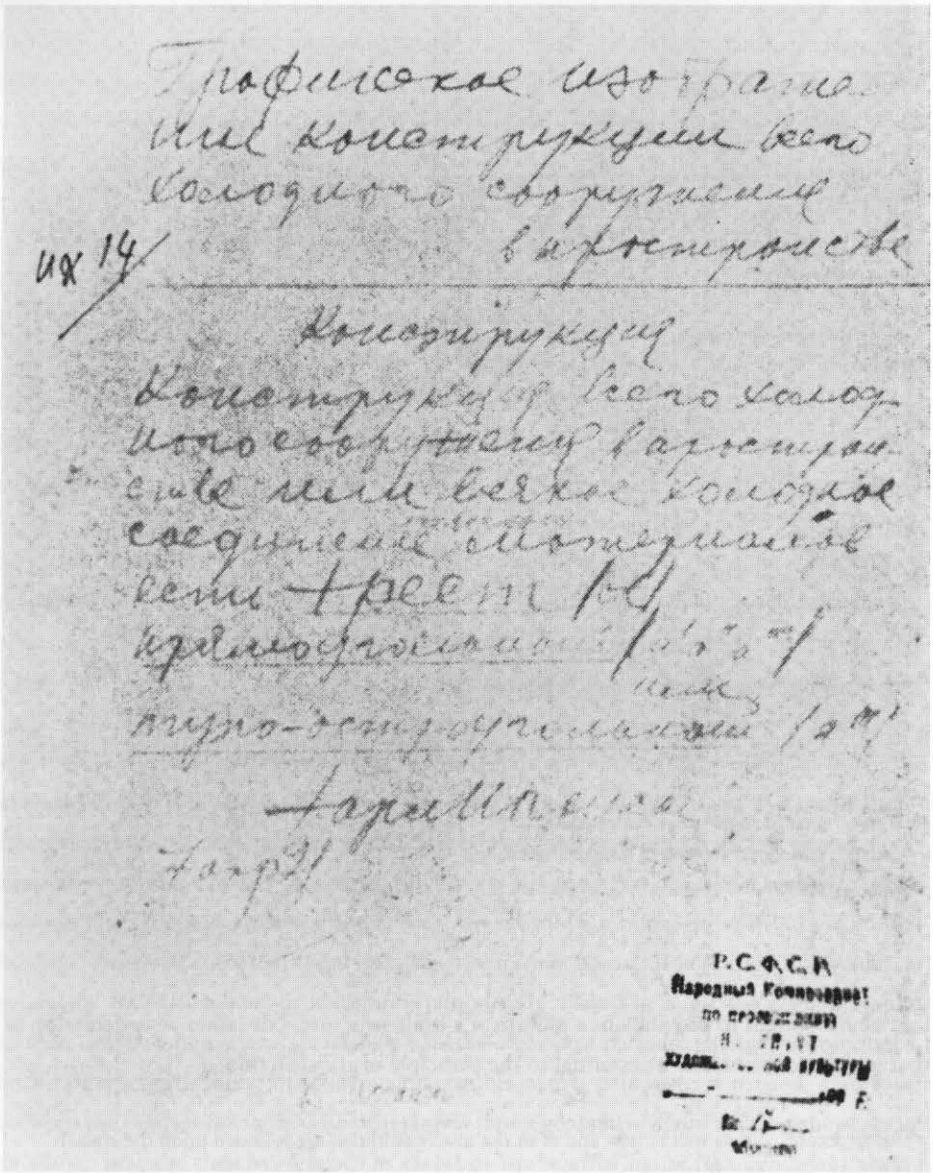


29 Diagram contrasting periodic and nonperiodic patterns. Photograph courtesy of Verlag Helvetica Chimica Acta AG, Zurich.

that he has sought to provide not a picture of a built structure, but rather an articulation of that which he believes to be essential to the principle of construction:

> All structures, old as well as new and even the most grandiose, are founded upon the *cross*. I submit not a self-sufficient construction, but the representation of that upon which it rests—that is, the *cross*. (64–65)

His drawing takes up the notion of deductive structure that Rodchenko explores over the course of several sessions and in his hanging spatial constructions. In it, a large red cross divides the total field of the sheet into four further fields. Drawn in each of these four fields is a cross, three of which are right-angled and one of which is acute- and obtuse-angled. Three of the five crosses overall are deductive with regard to the sheet itself. The right-angled cross drawn in blue and red pencil in the upper-left field (annotated "a'" by the artist,



30 Karl Ioganson. Verso of *Graphic Representation of a Construction*, April 7, 1921 (plate 8).

meaning "a prime") and the cross that appears below it (annotated "a"," meaning "a double-prime") both index the right-angled division of the sheet made by the large red cross (which Ioganson designates on the verso as "A"). In other words, these two small crosses are deduced from A's primary division of the sheet. By contrast, the acute-angled cross at upper right (marked "a'''," meaning "a triple-prime") is positioned obliquely with regard to the division of the total field—it is instead deduced from the corners of its own quarter-field.

The fourth small cross—the right-angled cross at lower right (marked "a''''," meaning "a quadruple-prime")—is the single exception to the otherwise fully deductive character of Ioganson's drawing. It is positioned in a way that is oblique not only with regard to the division of the total field, but also to the corners of its own quarter-field. In this nondeductive cross, there are three distinct orthogonals—one drawn in red, another in blue, and a third in black. Unlike the other crosses, which are configured in terms of the intersection or at least the conjunction of their orthogonals, the nondeductive cross at lower right configures the cross in terms of the overlapping or *contiguity* of its orthogonals. The blue and black lines slide alongside each other and both overlap the red. This differentiation of two different modes within the drawing itself—intersection and contiguity—is significant in two respects.

First, the configuration of the cross at bottom right in terms of contiguity signifies three-dimensional spatiality but without recourse to illusionistic description. Second, in contrast to the overt planarity of the other three small crosses and the large cross, the nondeductive cross skews or escapes the surface of the sheet. It alone possesses a dynamism that broaches the eruption into space, which Ioganson considers essential to the concept of construction: "Only in real space is there construction," he declares (49). Again, it must be emphasized that three-dimensionality is posited by Ioganson as a necessary condition for construction, but not in and of itself as a sufficient one. (A composition can also have three dimensions; as he notes on the verso of *Plan of a Composition: Natur-morte,* the composition of a still life can occur "on the plane or in space.")

On the verso of *Graphic Representation of a Construction,* Ioganson writes a summation of the principle that has driven his spatial production over the past several months (fig. 30):

> The construction of any cold structure in space, or any cold combination of rigid materials,
> is a *Cross* (A)
> *right-angled* (a', a", a'''')
> or
> *acute- and obtuse-angled* (a''').

The drawing and its inscription provide an aggressively rationalized definition of the principle of construction in terms of a primary given—the cross—that is the fundamentally irreducible articulation of the minimum requirement for the existence of any structure. His drawing is not a picture of a structure, but rather a rhetorically efficacious model of the prin-

ciple of construction *qua* principle. By deploying a common formal language for both drawings, instead of resorting to an already exhausted opposition, Ioganson is able to delimit the principle of composition from that of construction. Ioganson seems to understand, in other words, that in the realm of the "laboratory," differences can only emerge from within a context of similarity. By attending closely to the form of articulation—to the means of signification itself—Ioganson finds a means by which to articulate the excess deemed intrinsic to composition, while also preserving the deductive thesis of construction that is developed, but eventually abandoned, by Rodchenko.

THE DEBATE'S BROADER CONTEXTS

During the final sessions of the debate, the members of the newly established Constructivist group increasingly favor the utilitarian thesis advanced by Rodchenko. This thesis forms the basis of their "Program of the Working Group of Constructivists"—a prognostic declaration of the group's future collaboration—but the composition-versus-construction debate is neither resolved nor concluded per se, a fact rather underplayed in the secondary literature. At the final session, on April 22, Tarabukin declares the principles of composition and construction inextricable, riddling the now-exhausted Working Group of Objective Analysis with two new terms: "compositional construction" *(kompozitsionnaia konstruktsiia)* and "constructive composition" *(konstruktivnaia kompozitsiia)*.[77] In order to examine these new terms—so as to bring the debate to a conclusion—a further meeting is scheduled (66). It does not, however, take place, and the "inconclusive" April 22 session thus turns out to be the Working Group's final discussion of composition and construction. But it is far from the last consideration of the subject. During the years that follow, the delimitation of composition and construction will continue to preoccupy artists, critics, and historians in a variety of institutional and other arenas.[78]

So we are left, in April 1921, with a polemical field comprising five positions—testimony to the heterogeneity of the early Constructivist enterprise. To summarize: in this polemical field, the weakest position is the dimensionality thesis advanced by Vladimir Stenberg and Medunetskii. A more complex position—a thesis concerning the organic unity of construction—is presented by Stepanova. Rodchenko's double contribution to the discussion includes a thesis of utilitarian value and a nascent theory of deductive structure. Finally, the fifth position—more a rhetorical strategy than a thesis proper—is the common denominator deployed by Ioganson.

Before closing, I would like to situate the INKhUK debate within two broad historical contexts. The first of these contexts is diachronic in its sweep and has to do with the autotelic principle underpinning modernism more generally—a principle most readily apparent for the first time (within the modern period) in German Romanticism. This autotelic

principle is the general motor of modernism's increasing valorization of genesis over mimesis, or process over product. We know that the Working Group of Objective Analysis plans to publish an anthology, entitled *From Representation to Construction (Ot izobrazheniia—k konstruktsii)*, which is to include the submitted drawings and various artists' statements tabled during the debate. While the publication does not eventuate, the title of the proposed volume indicates that the Working Group situates the problem of composition versus construction within the much larger context of European modernism in general.

Mapping the concerns of the German Romantics—in particular the philosophers gathered around the review *Athenaeum* at the end of the eighteenth century—Tzvetan Todorov writes of a "shift of attention from the relationship among forms . . . to the process of production" itself.[79] Considered in relation to the shifts delineated here and by the title of the Working Group's proposed anthology, the first and second conceptions of construction advanced during the INKhUK debate—the dimensionality and organic-unity theses—would belong to the realm of "representation" or the "relationship among forms." The fourth and fifth conceptions, by contrast—the deductive-structure thesis and the common-denominator strategy—would belong to the realm of "construction" or the "process of production." Alternatively, but similarly, the first two positions could be described as comprising synthetic modes of production (that is, the relation of the parts to the whole) and the last two, organic modes of production (the self-generation of the whole). In sum, I would suggest that Stenberg, Medunetskii, and Stepanova were each operating within a relational economy, and Rodchenko and Ioganson, by contrast, within an organic system.

In order to divide the debate's polemical field in this way, however, there is a complication that requires clarification and resolution—namely, the fact that Stepanova herself defines construction by way of organic analogy. How is this fact to be reconciled with the suggestion just made? As I argue earlier, Stepanova's organic-unity thesis is, in the end, an Aristotelian theory of composition recycled as the *desideratum* of construction. Her construction drawing *Planar Structure,* for example, depends upon the relational economy of collage, a relationality that is organized (only) by its maker's subjective will. By contrast, while neither Rodchenko nor Ioganson explicitly invokes an organic analogy, they nevertheless introduce deductive procedures—modes of making—that might be understood, within the overall (and fundamentally romanticist) discourse of autotelism in the INKhUK debate and European modernism more generally, as precisely just that—organic. The nonrelationality of parts and the minimization of the maker's "interference"—both characteristics of deductive structure—mark the latter as an organic mode of production.

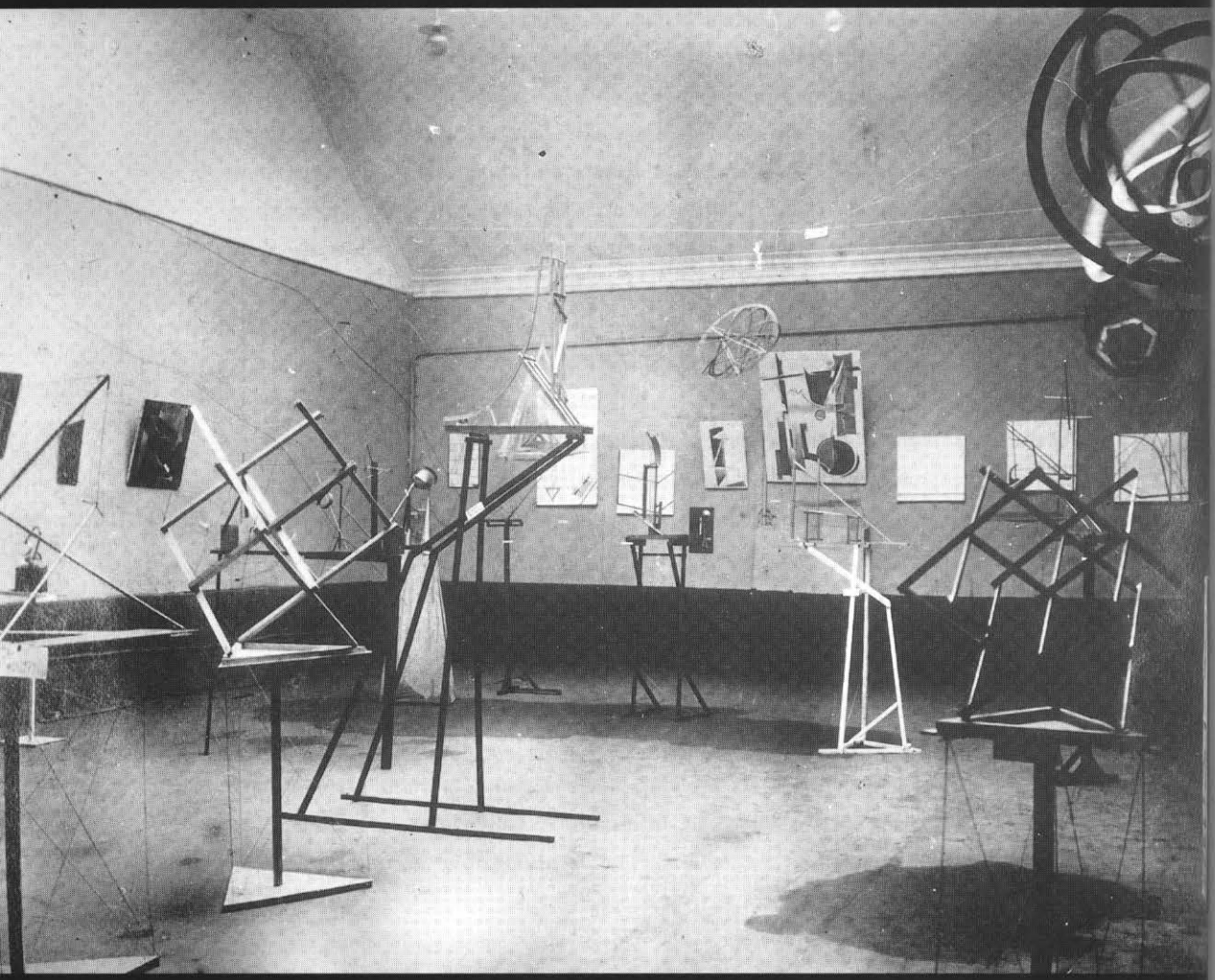
If, however, the Romantic analogy between the work of art and organic life affords an important diachronic context to the debate's autotelism, the immediate aftermath of the October Revolution gives it its synchronic context and its particular urgency. During the debate, for example, Rodchenko hypostatizes "organization" as the operative principle of both contemporary life and artistic struggle: "As we see in the life of the RSFSR," he declares,

"everything leads to organization. And so in art everything has led to organization."[80] It seems plausible to suggest that, in referring to the "life of the RSFSR," Rodchenko has in mind the command economy—or the projection of a command economy, if we are to adopt Timothy J. Clark's wise skepticism[81]—of the first period of Bolshevik rule from June 1918 through the end of 1920. This is the ultrastatist and iconoclastic policy known as War Communism. At the heart of this policy is the conviction that organization and state planning are the means by which to eliminate the excesses, inequalities, and arbitrarinesses of the market economy and its concomitant social stratification; this involves measures such as the nationalization of industry and private property, abolition of private trade, and severe grain requisitioning.

In the very months in which the INKhUK's composition-versus-construction debate unfolds, the policy of War Communism is itself the subject of intense scrutiny—on the laboratory table, as it were—at the highest levels of the Bolshevik Party. Due to the near-total decimation of Russian industry during the recently concluded Civil War, the Bolsheviks find themselves incapable of providing the peasantry—which supplied the cities with grain throughout the war—with even the most basic consumer goods in return. Faced with a debilitated industrial base and a rebellious peasantry, Lenin jettisons the hope of an immediate and total transition to a socialist economy, and beginning in March 1921, he launches instead a series of proposals that come to be known, cumulatively, as the New Economic Policy (NEP). In contrast to War Communism, the NEP confers upon private individuals the right to engage in private trade and small-scale manufacturing.[82] The NEP thus marks the Bolsheviks' partial return to a market economy. As such, it flies directly in the face of the party's earlier, and continuing, efforts to ground the infant economy of Socialist Russia upon the principles of centralized organization and planning. As E. H. Carr and others argue, the issue of state planning does not suddenly arise in the late 1920s with Stalin's introduction of the Five-Year Plans, but is already an extremely controversial topic at the time of the introduction of the NEP, which is seen by many Bolsheviks as a betrayal of the fundamental thrust and ambition of the October Revolution.[83]

The Working Group of Objective Analysis's interest in, and indeed insistence on, theorizing the laws of pictorial organization thus becomes manifest at precisely the moment when Bolshevik economic policy is moving in the opposite direction—that, is, away from organization toward the free market (or away from planning toward "arbitrariness"). We have, therefore, a complex relation between contemporaneous artistic and economic contexts, rather than mutual reflection. This complexity is highly significant, and suggests that the INKhUK debate over excess may perhaps be read as a kind of intervention into a larger political and economic debate—an intervention on the side of War Communism. The fact that the INKhUK is itself one of the beneficiaries of state funding under the policy of War Communism—a funding that the NEP threatens to terminate—lends further support to such a reading. As Rodchenko insists: organization is the key to both art *and* life in the RSFSR.

In opening this chapter, I argued for the historical significance of the Costakis portfolio in two major respects: first, as an unprecedented attempt to institutionalize the modernist problem of the motivation of the arbitrary and, second, as the most extensive document of early Constructivism. We have now a third significance: The Costakis portfolio constitutes a complex theoretical intervention—from within the realm of cultural production—into one of the greatest controversies of the early political and economic history of the fledgling Russian Soviet Federal Socialist Republic. In the next chapter, we will see just how divergent the Constructivists' varying interventions become, by considering their respective contributions to the OBMOKhU exhibition, which opens in central Moscow in late May 1921. Insofar as this exhibition reiterates the polemical heterogeneity articulated by the Costakis drawings, it serves as a kind of conclusion to the INKhUK's composition-and-construction debate, albeit a surrogate and partial one.



31 View of *Second Spring Exhibition of the OBMOKhU* (toward south and west walls). 11 Bol'shaia Dmitrovka, Moscow. May–June 1921. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

2

In the Laboratory of Constructivism

I can look upon the sky as concrete material.

VLADIMIR TATLIN, at a meeting of the Moscow INKhUK (1921)

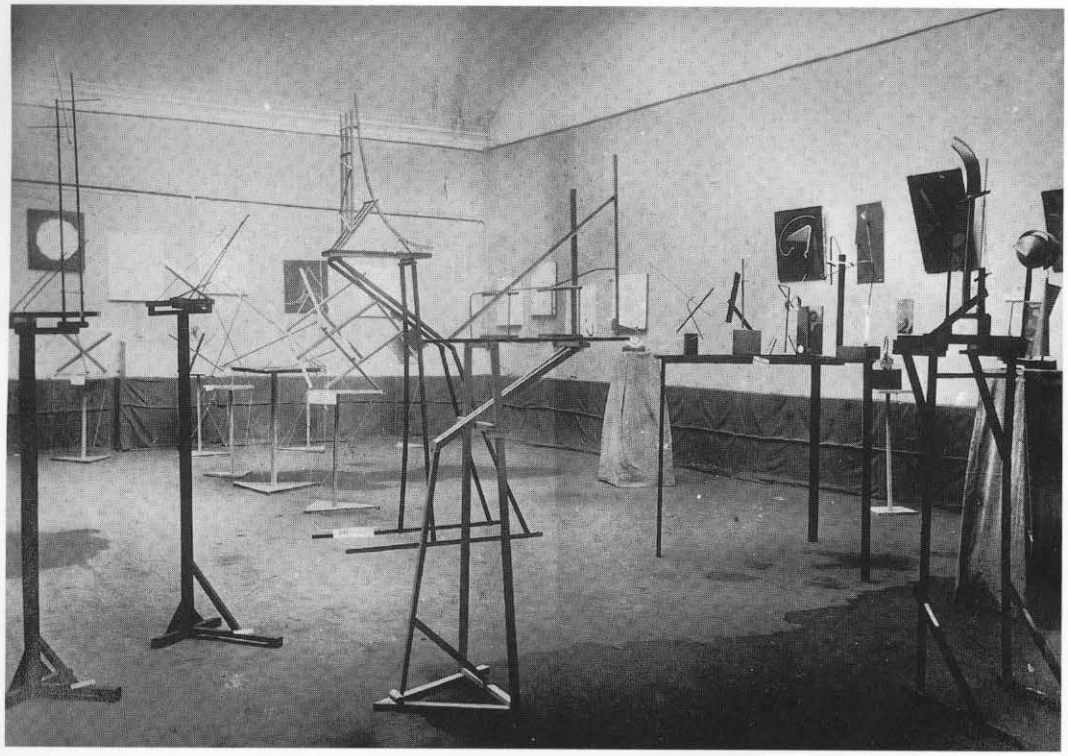
Sculpture must give way to the spatial solution of the object.

ALEKSEI GAN, *Constructivism* (1922)

TABLEAUX

In her memoirs, the celebrated Russian translator Rita Rait-Kovaleva reminisces about her friendship in the 1920s with the poet Vladimir Mayakovsky. One recollection concerns the advent, in the wake of the October Revolution, of a radical new form of three-dimensional work that could not be encapsulated within the terms of the traditional category of sculpture—the spatial construction. Rait-Kovaleva attributes to Mayakovsky great insight apropos the urgency and future significance of this new Constructivist form:

> The exhibition of the constructivists: Rodchenko, Stepanova, Popova, Lavinskii—I knew them personally and so remember their names—but probably there were also others who took part, perhaps even Tatlin himself. There were only a few visitors; Mayakovsky was pacing the exhibition hall. It was evening and we were a crowd brimming over with that kind of mad excitement for which there is no reason, and which we were hardly ever without in those days. I took off my coat; next to me were some metal rods crossing one over the other, upon them—sideways—a triangle and some semicircles or other. With someone's help, my coat was hung upon the cantilevering arm *[vytianutoi strele]* of this sculptural structure. We were happy: art had proved itself "useful," it seemed, just as it was supposed to be. But then Mayakovsky approached us, scowling, and said, very severely but sotto voce so as not to attract the attention of the sculpture's author, who was standing not far away, "Take it down immediately! What an outrage! Don't you understand anything . . ."



32 View of *Second Spring Exhibition of the OBMOKhU* (toward south and east walls). 11 Bol'shaia Dmitrovka, Moscow. May–June 1921. Photograph courtesy of Viacheslav Koleichuk, Moscow.

But when he realized that we really had understood nothing at all, he explained, his anger already assuaged by our embarrassment, how the artist wanted to demonstrate in his work new interrelationships and forms of a kind that had never been seen before, but most importantly of all, he wanted to teach [people] to see in a new way those things that are as yet unfamiliar but that in the future might assist in the new construction of things: bridges, buildings, machines. . . . For me, the significance of stylized, nonobjective art *[uslovnogo, bespredmetnogo iskusstva]* somehow became clear that evening, and from then on I looked at a lot of things differently. . . . In the gigantic arm of an advancing excavator, I suddenly saw that metal arm of the constructivist sculpture upon which my coat was hung: the artist's discovery transformed into life.

Many years later, after the war, in 1945, Lilly [Brik] and I translated . . . Gertrude Stein's book—the part where she talks about Picasso, about his youth, about his first works. In that book there is a similar conversation. It's the end of the First World War. Picasso is walking around Paris with someone and suddenly he sees camouflaged tanks crawling along—probably they were the first of those years. The form of the tank was broken up into differently colored planes—circles, squares. "Goddamn it! We invented that, you know!" said Picasso to his com-

panion. As I read this story, I remembered that evening at the exhibition and the perspicacity of Mayakovsky's vision *[zorkie glaza Maiakovskogo]*.[1]

Were it not for the exhibition participants Rait-Kovaleva lists, one could situate this revelatory encounter between poet and translator within the space documented by two now well-known photographs, taken from opposite ends of a gallery of spatial constructions produced in the early 1920s by five members of the Constructivist group: Karl Ioganson, Konstantin Medunetskii, Aleksandr Rodchenko, and Georgii and Vladimir Stenberg (figs. 31, 32). Their installation fills a single gallery—what I will call the Constructivist gallery—of a larger group exhibition held in Moscow in May to June 1921 by a revolutionary artists' collective, the Society of Young Artists (Obshchestvo molodykh khudozhnikov; OBMOKhU). In a contemporary review in the trilingual journal *Veshch' Objet Gegenstand* (edited, in Berlin, by El Lissitzky and Ilya Ehrenburg; fig. 33), Lissitzky credits the Constructivist gallery with having invented a new exhibition format: "We looked not only at the works of art hanging on the walls," he writes, "but particularly at the ones that filled the space of the hall."[2]

With the exception of two constructions—Medunetskii's small *Spatial Construction* (1920; fig. 34), purchased in Berlin in 1922 by the American collector Katherine Dreier, apparently on the advice of Marcel Duchamp,[3] and Rodchenko's *Oval Hanging Spatial Construction, no. 12* (ca. 1920; fig. 35), which for many years hung in the lounge of George Costakis—none of the spatial works shown in the exhibition has been preserved. Although about a third had already entered the Russian republic's museum collections by the time of the exhibition, state acquisition was not in itself sufficient to save these constructions from the rampant destruction of avant-garde work—"liquidation" was the official term—that occurred during the reorganization of museums along conservative lines in the mid-1920s. Since the reopening of Constructivism as a field of inquiry in the Soviet Union in the 1960s, a good number of these works have been reconstructed. Besides assisting in this task, the installation photographs have also done much to establish an understanding of the Constructivists as a united front—a group standing on a shared platform in opposition to a plethora of other artists' groups.

As our most substantial record of an extraordinary body of work produced in the revolutionary period, these photographs have, like Aloïs Riegl's "scrap of paper,"[4] enormous evidentiary value—but at a price: As black-and-white photographic tableaux, they afford the exhibition homogeneity where there is, I will argue, none. The present chapter seeks to interrupt this effect of homogeneity, in order to shed light upon a controversial polemic at work *within* the gallery itself, wherein several radically opposed articulations of, and claims on, the notion of construction are presented: construction as an iconography of built structure (the Stenberg brothers), construction as assemblage (Medunetskii), and construction as a deductive or indexical procedure (Ioganson, Rodchenko). The existence of this polemic demonstrates that laboratory Constructivism has to do not only with the famously fraught question of negotiating the transition from easelism to production, but also with

ganzen Generation bis zuletzt das jugendliche Feuer des Revolutionärs ausgestrahlt hat, werden wir noch im besonderen zurückkommen*).

Die Ausstellung von 1919 bildete den Gipfel der „Gegenstandslosigkeit" und kennzeichnet den Umschwung zur neuen Stofflichkeit. Hier strebt der Individualist Rodschenko danach analytisch, die zerstreuten Farben zusammenzufassen und zerlegt die Form, die Malewitsch zur Fläche übergeführt hatte, bis auf die Linie. Hier finden wir den zerfahrenen Kandinsky, diesen Rußland so fremden Menschen. Wie etwas Vorsintflutliches steht er — ein Monstrum — vor unseren Tagen, unseren Tagen der Organisierung, der Klarheit und Genauigkeit des Planes. Und am anderen Flügel die Gruppe der Synthese in Malerei, Architektur und Bildhauerei. — Hier gab es sieben Entwürfe zu einem Hause der Räte, die von einem Bildhauer, zwei Malern und Architekten angefertigt waren. Hier fanden sich auch allerlei andere Entwürfe und Skizzen. Noch immer recht viel Ästhetik, aber doch schon Hände, die den lebendigen Stoff behandeln und in neue Formen zu fassen suchen.

So fühlte man deutlich unterirdische Kräfte sich an der Konstruktion der Malerei tränieren, um demnächst zur Konstruktion von Gegenständen überzugehen. Auf diesem Wege hatte die alte Bildermalkunst Luft geschöpft und zeitigte stoffliche *Darstellungen* von Gegenständen. Die Ausstellung des Künstlers Sternberg im Jahre 1922 zeigte eine Reihe von Bildern, auf denen mit hoher Malkultur und liebevoller Behandlung von Gläsern, Tellern, Spitzen und Konfekt, durch äußerst ökonomische Mittel Darstellungen erreicht wurden, die der Beschauer mit den Händen zu betasten versucht ist.

Zugleich mit der Erweiterung und Lösung ihrer Aufgaben wurde es den jungen Künstlergruppen klar, daß die alte Form der Kunstausstellung nicht mehr imstande ist, ihren Zwecken voll zu entsprechen. Das, was nun die Wände bedeckte, diente ja schon nicht mehr der Befriedigung des Anschauens. Was der Künstler nun malte, war ja nicht mehr das Resultat irgendeiner Gefühlserregung, z. B. des Entzückens beim Anblick eines Sonnenunterganges, von dem der Nachbar angesteckt werden sollte, um von der wirklichen Sonne abgelenkt zu werden. Ein roter Kreis ist ja keine Sonne, und hier liegt irgend etwas durchaus Unverständliches. Nun versuchten manche, neben ihren Arbeiten postiert, ihren eigenen Führer für die Beschauer zu spielen (so haben die russischen Künstler viel Selbstaufopferung gezeigt). Andere wieder gingen auf die Straße hinaus. Der Bildhauer Gabo, die Maler Pevsner und Kluzis stellten ihre Werke im offenen Musikpavillon auf dem Tverschen Boulevard in Moskau aus und befestigten an den Häusern der Stadt ihr „Realistisches Manifest". Es herrscht ein reger Verkehr auf diesem Boulevard und des Abends sprechen die Verfasser in freien Versammlungen zu dem Publikum.

Größeren Erfolg hatte Tatlin. Es gelang ihm, auf der zum 8. Allrussischen Kongreß der Räte organisierten Ausstellung sein Modell zu einem Denkmal der III. Internationale von 5 m Höhe zur Schau zu bringen. Und hier, mitten im Saale des Staatsverlages, standen neben dem Modell sein Schöpfer und dessen zwei Gehilfen und erklärten den Abgeordneten aus Sibirien, aus Turkestan, aus der Krim und der Ukraine den Sinn und den Zweck des turmartigen Denkmals.

Diese zur neuen Form von Kunstausstellungen führende Richtung wurde von zwei Gruppen weiter ausgebaut: der „Obmochu" (Gesellschaft junger Künstler) und der „Unowis" (Verfechter der neuen Kunst).

Die Ausstellungen der „Obmochu" sind neu in ihrer Form. Hier sehen wir nicht nur Kunstwerke, die an den Wänden hängen, sondern hauptsächlich solche, die den Raum des Saales ausfüllen.

Diese jungen Künstler konzentrieren die Erfahrungen der vergangenen Generation in sich, arbeiten gut, empfinden fein die spezifischen Eigenschaften der Stoffe und konstruieren räumliche Werke. Zwischen der Technik des Ingenieurs und der „ziellosen Zweckmäßigkeit" der Kunst hin und her schwankend, versuchen sie vorwärts zu dringen.

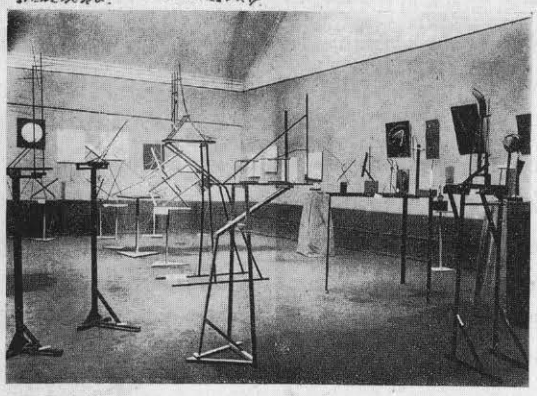
Die „Unowis" greift die Probleme in der Tiefe an. Sie baut eine neue Methode aus. Sie sieht ihr Ziel deutlich vor sich liegen — und zwar die Schaffung einer neuen Symmetrie im Aufbau wirklicher Körper, als Grundlage einer neuen Architektur im weitesten Sinne dieses Begriffes. Aber sie kennt die Grenzen der Wissenschaft und diejenigen der Kunst. Sie weiß, was man in der Kunst wissen kann und muß und wo jenes, jenseits des Verstandes Liegende, beginnt, das uns mit der unerbittlichen Sicherheit des Mondsüchtigen zum erforderlichen Ziele führt.

Und die „Unowis" stellt sich zur Aufgabe, eine Ausstellung zu liefern, wie z. B eine technische: hier ist das rote Eisenerz, hier wird das Metall gewonnen, hier zu Stahl verarbeitet, hier zu Schienen gewalzt usw. So nähert sich die „Unowis" dem von der Malerei in unsern Tagen Erreichten, dem Kubismus, dem Futurismus, dem Suprematismus, und die Ausstellung demonstriert, wie die neuen in uns sich realisierenden Konstruktionssysteme zu verstehen sind und wie wir Hand in Hand mit ihnen wiederum dem Leben zuschreiten. — Auf diese Weise tritt hier die Malkunst als Vorübung auf dem Wege zur organisierten Teilnahme am Leben auf und ihr Studium ist für den Lernenden nicht mehr mit dem Zwang verbunden, durchaus Kunstmaler zu werden.

Alles hier Erreichte lebt in der neuen russischen höheren Kunstschule weiter fort. Hier liegt die Arena des Kampfes für die Losungen: „die Kunst im Leben" (und nicht außerhalb desselben) und „die Kunst ist eins mit der Produktion". In der ehemaligen russischen Akademie hat eine der rühmlichsten Revolutionen stattgefunden.

Ulen.

*) Wir kehren zu ihm im nächsten Aufsatz, der den Suprematismus behandeln wird, zurück.



ВЫСТАВКА „ОБМОХУ"
МОСКВА 1921

EXPOSITION „OBMOCHU"
MOSKAU 1921

СТАТЬЯ РАУЛЯ ГАУСМАНА

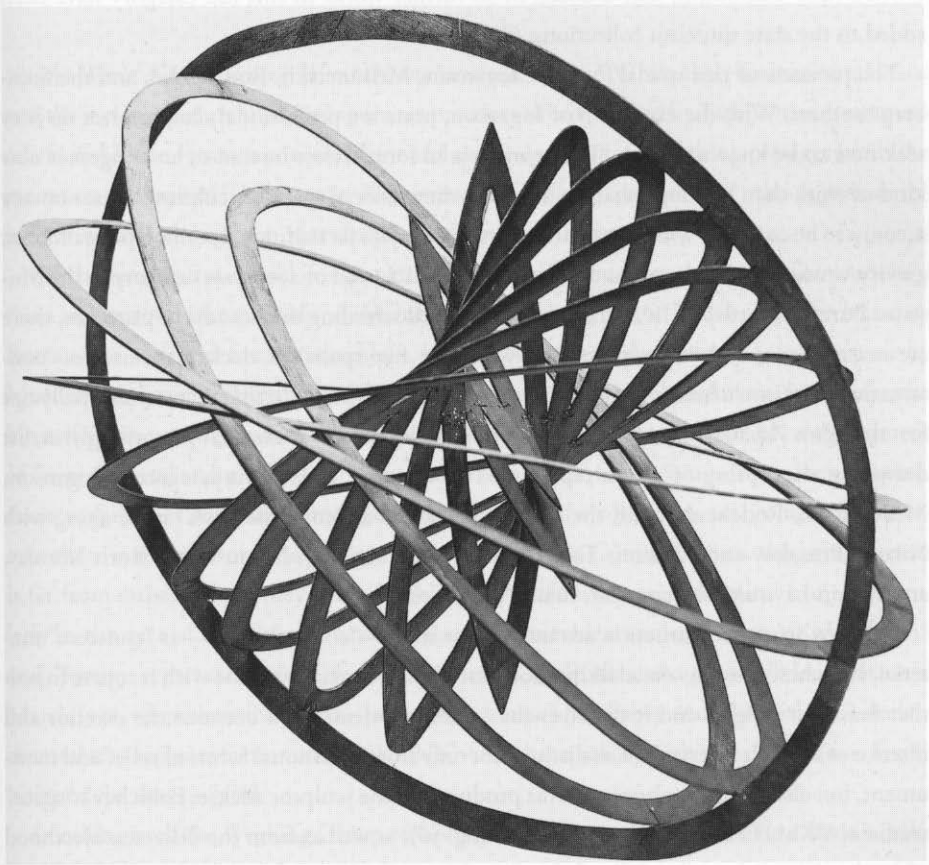
„ОПТОФОНЕТИКА"

В СЛЕДУЮЩЕМ №

33 Ulen (El Lissitzky). "Die Ausstellungen in Russland," *Veshch' Objet Gegenstand* (Berlin), nos. 1–2 (March–April 1922), 19. Research Library, The Getty Research Institute, Los Angeles.

34 Konstantin Medunetskii. *Spatial Construction.* 1920. Tin, brass, iron, and steel on painted metal base. 46 cm high (including base). Yale University Art Gallery, New Haven, Connecticut, Gift of Collection Société Anonyme.

35 Aleksandr Rodchenko. *Oval Hanging Spatial Construction, no. 12.* ca. 1920. Plywood, open construction partially painted with aluminum paint, and wire. 61 × 83.7 × 47 cm. The Museum of Modern Art, New York, Acquisition made possible through the extraordinary efforts of George and Zinaida Costakis, and through the Nate B. and Frances Spingold, Matthew H. and Erna Futter, and Enid A. Haupt Funds. Digital image © The Museum of Modern Art / Licensed by Scala / Art Resource, NY.



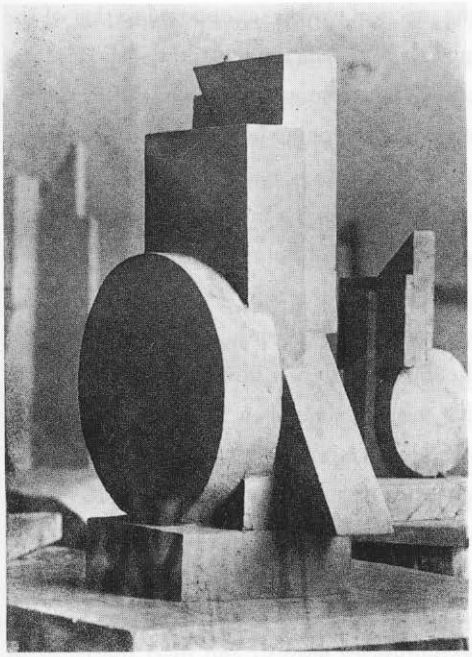
the expression of some profound reservations about the very doctrine of functionalism upon which that transition—at least programmatically speaking—is supposed to be based.

THE ADVENT OF A NEW FORM

As the director of a new museum of contemporary Russian art—the Museum of Painterly Culture (Muzei zhivopisnoi kul'tury; MZhK)—Rodchenko writes in June 1921 that "for the past three years the best contemporary artists, both in Moscow and the provinces, have lived exclusively from the sale of their work to the [Museum] Bureau [Muzeinoe biuro]." Such state support, he continues, "[is] unprecedented anywhere in the world," and as such "it is an achievement of which the commune ought to be proud."[5] By December 1920, the Museum Bureau had indeed acquired on behalf of the Russian republic the work of over four hundred contemporary artists who would otherwise have been left stranded by the collapse of the private market for collecting. The 26 million rubles spent up to that time had purchased 1,336 paintings, 404 drawings, 121 graphic works, 54 sculptures, and, finally, in a category all their own, eleven "spatial forms" *(prostranstvennye formy)*.[6] By the May 1921 OBMOKhU exhibition, half a dozen or so further works in this last category have been added to the state museum collections, Gosfond.

The pioneers of this spatial form are Ioganson, Medunetskii, Rodchenko, and the Stenberg brothers. With the exception of Ioganson, none is a professional sculptor, nor do they seek now to be known as such. The term "spatial form" refers instead to an altogether new kind of work that, although sharing the three-dimensional space of sculpture, is not on any account to be confused with monumental sculpture, with its traditional connotations of mass, gravity, immobility, and permanence—hence the inclusion of a separate category in the Museum Bureau's inventory. In testimony to the lexical wrestling that its advent provokes, there are several other early descriptors, but when the five spatialists declare themselves "constructivists" *(konstruktivisty)* in March 1921, the bureau and the artists themselves finally opt for the term "spatial construction" *(prostranstvennaia konstruktsiia)*. Accordingly, a list drawn up that spring of artists represented in the state collections categorizes Ioganson, Medunetskii, Rodchenko, and the Stenberg brothers as "constructivists" who, along with Nikolai Prusakov and Vladimir Tatlin, make "constructions"; Naum Gabo, Boris Korolev, and Anton Lavinskii, by contrast, make "sculptures."[7]

The new spatial construction advances space itself—"empty" space—as "concrete" material. It orchestrates this material but does not fill it; it declares volume with recourse to neither mass nor weight; and it dissolves the customary distinction between the exterior and interior of form. It asserts itself as distinct not only from traditional forms of relief and monument, but also from the abstract forms produced in the sculptor Aleksei Babichev's "space" studio at VKhUTEMAS in the early 1920s (fig. 36), as well as from the discrete objecthood of modernist sculpture that Ehrenburg will celebrate in his enthusiastic modernist tract, *And*



36 Aleksei Babichev. *Abstract Construction.* ca. 1921. Medium and dimensions unknown. No longer extant. Photograph courtesy of Sovetskii khudozhnik, Moscow.

Yet the World Keeps Turning (*Vse-taki ona vertitsia,* 1922).[8] While the elimination of mass and the inclusion of architectural space are practices already shared by Tatlin's corner counter-reliefs and Pablo Picasso's constructions and studio installations, nothing presages (with the exception perhaps of Tatlin's 1920 *Monument to the Third International*) the aggressive intervention into the history of sculpture made by the Constructivists in 1921.

Of the twenty-five spatial constructions exhibited in the Constructivist gallery, about a third are borrowed from Gosfond. Mainly through the agency of Rodchenko, the Museum Bureau has acquired five constructions by Ioganson, three by Georgii Stenberg, two by Medunetskii, two by Vladimir Stenberg, and at least three (but probably more) by Rodchenko himself. These acquisitions are part of a plan to establish within the MZhK a department of "experimental technics" *(eksperimental'naia tekhnika).*[9] On account of insufficient space, these acquisitions are initially merged with the rest of the collection, accommodated wherever there is room. From the point of view of the future Constructivists, this arrangement is far from satisfactory if they are to establish Constructivism as a polemical front, particularly in the eyes of the museum's two largest constituencies: students from VKhUTEMAS and "foreign representatives of western countries," as Rodchenko puts it.[10] It is not until March 1921, when these five artists—along with Varvara Stepanova and Aleksei Gan—declare themselves a separate faction within the INKhUK, that a gallery within the museum is finally assigned for that purpose.

In calling itself the Working Group of Constructivists, not only does the new faction make a self-conscious appeal to the revolutionary rhetoric of the dissolution of the division of la-

bor and the artist's accession to the realm of the practical worker (as opposed to that of the parasitical *intelligent*), but it also makes a formal claim on the rapidly and widely developing enthusiasm for the enterprise of "construction." For although the Museum Bureau's patronage has, in a sense, already earmarked the term as belonging to the group, the concept of construction is far from uncontested territory: Other artists outside the INKhUK—such as Lissitzky and Gustav Klucis, for example—are caught up in a similar dialectic of art and technics, in a similar attempt to build a dynamic synthesis of domains hitherto considered mutually exclusive.

The chief activity of the Constructivist group, at its Monday evening meetings at the Museum Bureau offices on Volkhonka *ulitsa,* is the formulation of a theoretical blueprint that will grant the spatial construction—a form that five of its members are *already* producing and selling to Gosfond—a new and inarguable raison d'être in terms of the immediate exigencies of the building of socialism. The Constructivists seek, in other words, to embed their spatial experiments firmly within the discussions that are taking place on every front concerning industrialization, a process that the Russian Communist Party has decreed as fundamental to the building of a socialist Russia in the aftermath of the Civil War. Gan, an agit-man who specialized in the staging of revolutionary festivals and mass spectacles in Moscow until expelled from the Theater Department (Teatral'nyi otdel; TEO) of Narkompros in late 1920 on account of the excessive radicalism of his views,[11] is entrusted by his new colleagues with the task of producing a provisional draft of the group's program and an agitational communiqué with which to publicize its activities.

THE PROGRAM

Having appointed Gan as their chief rhetorician, the members of the Working Group of Constructivists then spend numerous sessions trying to fathom the substance and terminology of the program enthusiastically drafted by him.[12] As the minutes of their meetings attest, they do not have an easy job of it, since, lexically speaking, Gan is extremely inventive.[13] Nevertheless, both the program and the group's seemingly interminable discussion of it over the course of some nine meetings are important because they help to flesh out the ideological context in which the Constructivists seek to build formal and political necessity into their *future* spatial production. In this, they hope to accomplish the "transition from experimental activity divorced from life, to experimentation that has a basis in reality."[14]

According to Gan, the fundamental problem confronting the Constructivists is their definition of the ideology underpinning their collective pursuit of "purposefulness" or "expediency" *(tselesoobraznost'):* "We must ask ourselves the question: how, ideologically speaking, is our purposefulness to be defined? And we must answer clearly and precisely that in addition to its formal essence, we are [also] investigating purposefulness from the point of view

of a Communist future."[15] Affirming Gan's assertion that "the ideological dimension must go hand in hand with the formal,"[16] the opening line of the Constructivist program declares, as the group's chief objective, "THE COMMUNIST EXPRESSION OF MATERIAL STRUCTURES" (*KOMMUNISTICHESKOE VYRAZHENIE MATERIAL'NYKH SOORUZHENII,* 95 / 67). This provocative but rather abstruse formulation quickly becomes the group's key slogan and, as such, is often reiterated in Constructivist documents.

To grasp the slogan's import, we must turn to Gan's long polemical tract *Constructivism* (*Konstruktivizm,* 1922; fig. 37). While not published until the following year, the last third of this book comprises a compilation of, and expansion upon, Gan's own oral and written contributions to the group's meetings—in some places in his text, it is evident that he has drawn directly from the INKhUK's stenographic records.[17] Gan's overall concern in *Constructivism* is to denounce an inconsistency commonly found among Marxists and Communists: Notwithstanding their radicality with regard to matters of economy, society, politics, and revolution itself, when it comes to the arts they seem to abandon altogether the ground rules of historical materialism (particularly, as Gan sees it, that "each stage of social development needs to be understood in terms of its own specific characteristics, which are unique to it and to it alone"). Such Communists seek instead to defend the "eternal" values of art: "As soon as we approach art, we cease to be Marxists. . . . The Narkompros Communists who are in control of matters of art are [thus] almost identical to the non-Communists outside Narkompros. They are as captivated by the beautiful *[nakhodiatsia v plenu u prekrasnogo]* as the latter are by the divine."

This inconsistency on the part of his former Narkompros comrades stems from their failure to fully acknowledge that all cultural endeavor is determined by the social relations of production—that is to say, Gan insists upon the strictest possible materialist interpretation of the interdependence of the new society's economic structure and its cultural organization. Hence his ridicule of those Narkompros Communists who erroneously believe that simply "changing literary themes and the personages depicted in paintings and sculpture" will constitute a "revolutionary shift," or a genuine form of "proletarian art." "For intellectual and literate people," he adds, "the subject [matter] has never been the fundamental essence of art."[18]

Having joined the INKhUK in the hope of finding a climate more receptive to his radical views, Gan designates Constructivism as communism's only historically "necessary" artistic phenomenon. Complaining that although "the Communists are carrying on a revolution in politics and economics, art remains completely untouched, in the same old place, with all its atavisms intact," Gan proposes to the Constructivist group that its "task is, therefore, to establish a new perspective on art, just as the Communists have done with regard to politics."[19] Further elaborating his otherwise somewhat abstruse slogan apropos the Communist expression of material structures, Gan writes in *Constructivism* that "[t]he first task of intellectual material production in the realm of structures, i.e., Constructivism, is to dis-

37 Front cover of Aleksei Gan, *Constructivism* (*Konstruktivizm;* Tver': Tverskoe izdatel'stvo, 1922). Photograph courtesy of State Russian Library, Moscow.

cover the Communist expression of material structures, i.e., to scientifically ground its approach to the construction of new buildings and services that will be capable of meeting the demands of Communist culture in its transitional state, in all its fluidity *[tekuchest']*."[20]

In other words, Communist Russia requires cultural forms that are capable of expressing the dynamism of communism itself, the latter being manifest in at least two ways: first, and literally, in the intensely transitional period in which Russia finds itself on the road from

capitalism to a communist future; and second, and more theoretically, insofar as materialism itself foregrounds historical specificity and change rather than transhistorical truths—"The 'eternal' and 'imperishable' truths," Gan writes, "are starting to rot, splendidly."[21] Only Constructivism can provide the forms appropriate to communism's dynamism:

> In essence, communism is dynamic. . . . Whom will communism appoint as its builder? An architect who aestheticizes? Of course not. The realm of spatial and constructive structures in the culture of the future will belong to the Constructivists. . . . If a kind of immortality was what was demanded of earlier structures . . . the Constructivist [now] faces other kinds of . . . demands. . . . [I]f communism demands that a certain task be fulfilled today, it has to be understood that tomorrow it will ask that [yet] another task be fulfilled, and this second task must be fulfilled in such a way as to supplement, rather than displace [that] which is fulfilled today.[22]

Constructivism is the "necessary" artistic practice of its particular historical moment, Gan asserts, because it is directly responsive to the abrupt shifts that underpin the process of the building of communism (unlike sculpture and architecture, which are "eternalizing" and "monumentalizing" in their aspirations). Constructivism fosters the momentary, transitional, flexible, and adaptable over the monumental and eternal.

But if this is the case, then the question immediately becomes: By what methods or mechanisms does or might Constructivism fulfill its historical destiny? In his Constructivist program, Gan proposes three basic elements to which the Constructivists should have recourse in their pursuit of the Communist expression of material structures: construction, *faktura,* and tectonics *(tektonika).* Each of these basic elements "mobilize[s] the material elements of [our] industrial culture" (95 / 67).[23] Gan's fellow group members have considerable difficulty, however, grasping his terminological troika. Their problem is not so much the concept of "construction," which the program defines rather straightforwardly as "organization" or a "unifying function" *(sobiratel'naia funktsiia)* (95 / 67). Rodchenko, for example, feels that "construction had already been well chewed over *[prozhena]* and is now used without difficulty."[24] Rather, it is the other two terms that cause all the trouble: first, there is the problem of *faktura*'s continuing relevance—or lack thereof—to Constructivism in the future; second, there is the meaning of the largely unfamiliar concept of tectonics.

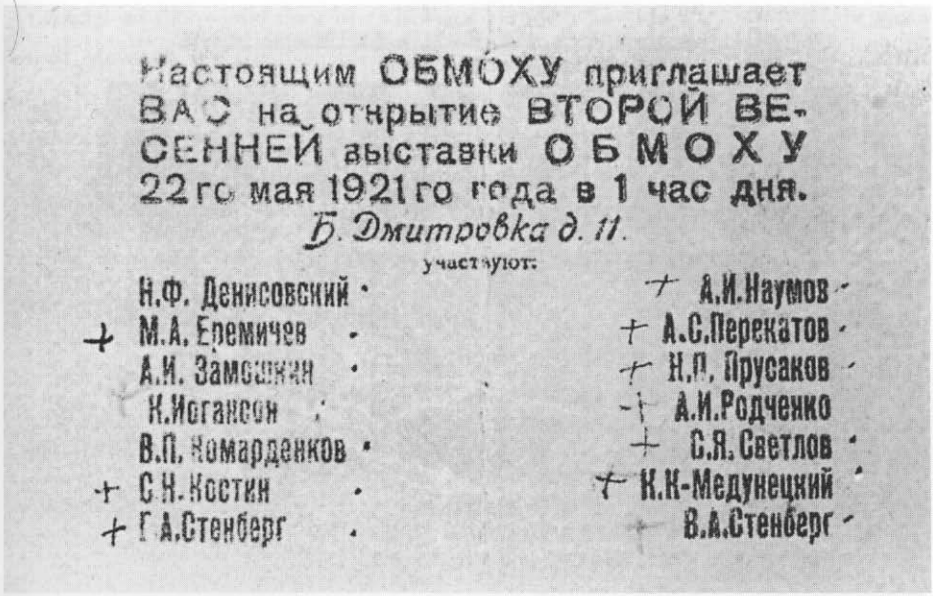
With respect to *faktura,* for example, Ioganson is rather circumspect: "The word *faktura* has become so terribly clichéd *[strashno zataskano],*" he remarks, "that in order to decide whether or not to include it . . . we need to begin by reconsidering the word itself: its precise meaning and its origins. If we do this, it will become clearer whether or not to include it."[25] Georgii Stenberg seems to concur with Ioganson: "The most important thing is to formulate the question of *faktura* correctly. This means not conceiving of it as they used to whenever they would break the charcoal and exclaim, 'Ah, what *faktura.*' Whereas now we would say—what a crappy *[skvernyi]* material this must be if it can be so easily broken."[26]

In contrast to Ioganson and Stenberg, Rodchenko objects—at least initially—to *faktura*'s

inclusion in the program on the grounds that *faktura* is a matter of surface rather than material: "I am against mentioning *faktura*. . . . There is no *faktura* in Constructivism; instead there is the condition of the material *[sostoianie materiala]*. The savoring *[smakovanie]* of surfaces has already been gotten rid of and we are trying to work with material."[27] In a bid to convince Rodchenko otherwise, Gan resorts to an industrial metaphor, likening the way in which the Constructivist works his or her material to the way in which a foundry produces iron from mineral ore: "We have to give new meaning to [the] concept [of *faktura*]. . . . Take cast iron—an industrial material: so that an object can be made out of it, a production process works it, i.e., smelts it, pours it into molds, and so forth—this whole process is also *faktura,* i.e., the working of material and not its surface. . . . And insofar as you are a constructivist, you are making *faktura [ty fakturish'; lit.*, you are fakturing]—i.e., you are working the material and are not just treating its surface."[28] The ensuing discussion concludes in Gan's favor, and *faktura* is incorporated into the final version of the program.[29]

Endeavoring to assist with the third and final term, tectonics, Gan tables "thirty-nine theses on tectonics," to the clarification of which the group then devotes at least three further meetings. Although the concept of tectonics is often cited by historians of Constructivism, it is rarely defined,[30] nor is it acknowledged that the group itself comes to no final agreement as to either its meaning or function within the program.[31] Perhaps following Gan's invocation of an industrial metaphor in order to defend the continuing relevance of *faktura,* the program likewise situates tectonics within the rhetoric of the foundry: "Tectonics or tectonic style is smelted *[vyplavliaetsia]* and shaped, on the one hand, by the specific character of communism, and on the other, by the expedient usage of industrial materials" (95 / 67).[32] It is important to note that Gan introduces tectonics not from the building sciences—where it is chiefly to be found in English and other western languages—but from the field of geology: "The word tectonic is taken from geology," Gan explains, "where it is used to describe volcanic eruptions spewing forth from the earth's core. That is, it is a synonym for the organicity of that which emerges from the inherent essence [of a given material]."[33]

Gan's analogy between Constructivism and volcanic eruption is unacceptable to Medunetskii, who objects to the program's inclusion of tectonics on the grounds that the term's connotations of spontaneity, chaos, and nature's apparent lack of will or deliberation contradict the deliberation, order, and organization that he believes distinguish construction.[34] But Rodchenko defends Gan's analogy: "The eruption of a volcano is not a chance phenomenon, but the result of a concrete labor *[opredelennoi raboty]* of nature."[35] (That is, a volcanic eruption is a dynamic, sudden, disruptive, and usually unexpected phenomenon, but it is not an arbitrary one, since it is the manifestation of the motion of the earth's internal structure.) In launching this defense of the concept, Rodchenko, consciously or not, reveals the way in which Gan's conflation of the Constructivist's labor with that of the foundry, and the latter with that of the earth's core, in fact essentializes his engagement of Marx's metaphor of base and superstructure. This further underscores the technologically determinist character of Gan's interpretation of the Constructivist enterprise.

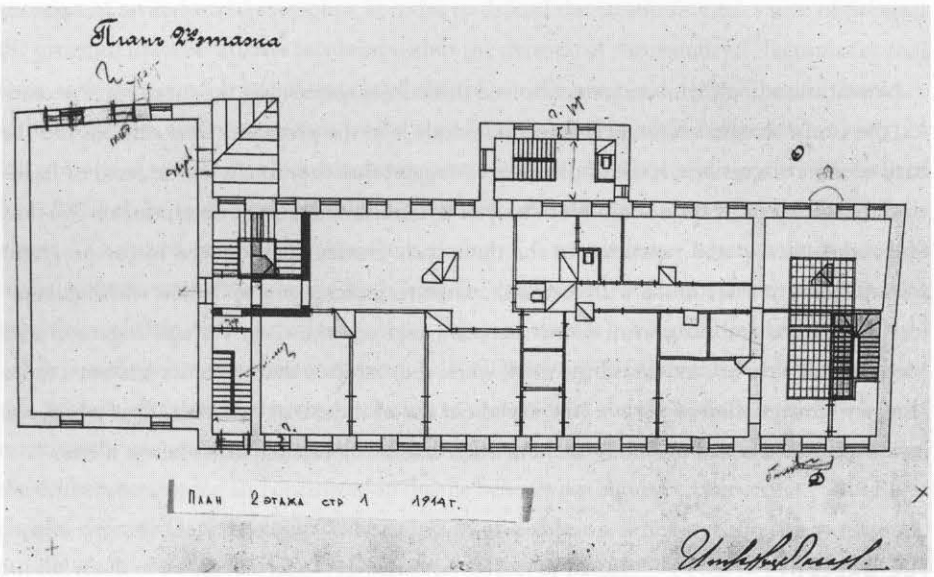


38 Invitation to the May 22, 1921, opening of *Second Spring Exhibition of the OBMOKhU.*

Notwithstanding their various unresolved difficulties concerning the meaning of tectonics, the Constructivists ultimately agree to include it in the program's final version. On the basis of their discussions, it seems plausible to suggest that they finally opt in favor of its inclusion because of its connotations not only of dynamism but also of determinism. We thus find much overlap and repetition in the three basic elements announced in the program: *faktura* seems to share much with tectonics, while tectonics seems to be that which guarantees the mutual imbrication of Constructivism and communism. Perhaps Ioganson and Medunetskii were not too far off the mark when they asserted that tectonics was but a more "literary" formulation of *faktura* (the expedient use of industrial materials),[36] to which has now been added communism as the new, other half of Constructivism's raison d'être.

THE GALLERY

In the midst of the Constructivists' deliberations over their program, the group's three youngest members—Medunetskii and the Stenberg brothers—invite Ioganson and Rodchenko to participate in the second exhibition of OBMOKhU, to which the younger artists have belonged since 1919 (fig. 38).[37] The May–June 1921 exhibition is held in the former gallery of the dealer Klavdia Mikhailova, which Vladimir Stenberg later describes from memory as "a kind of salon café."[38]



39 Poster for *Second Spring Exhibition of the OBMOKhU.*

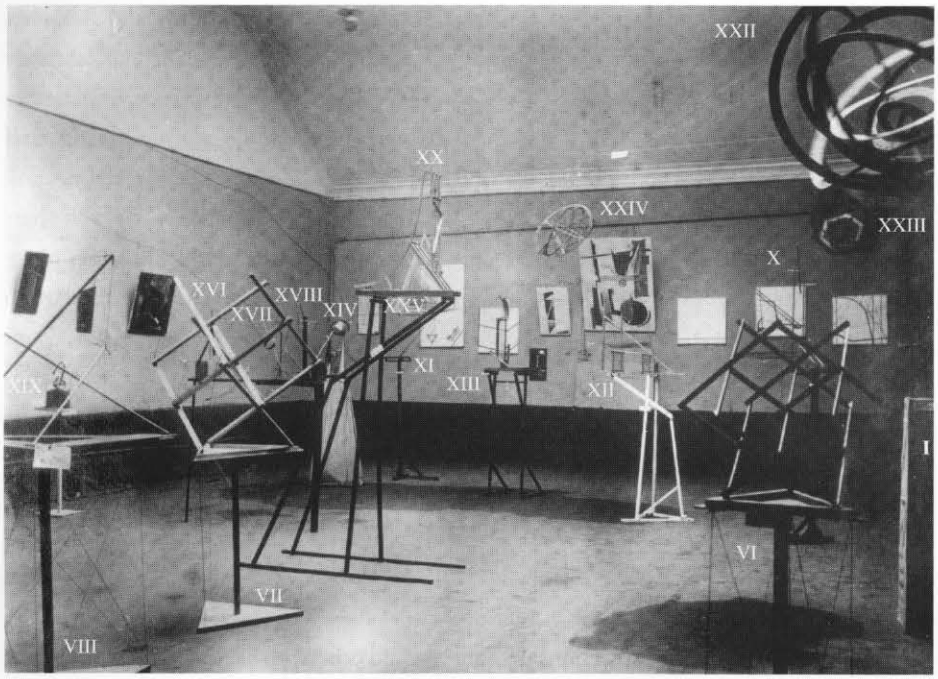
40 Plan of the second floor of 11 Bol'shaia Dmitrovka, Moscow. 1914. Directorate of the State Inspectorate for the Preservation and Usage of Historical and Cultural Monuments, Moscow, f. kvartal 65, t. no. 11, d. 1112/89. Photograph courtesy of Directorate of the State Inspectorate for the Preservation and Usage of Historical and Cultural Monuments, Moscow.

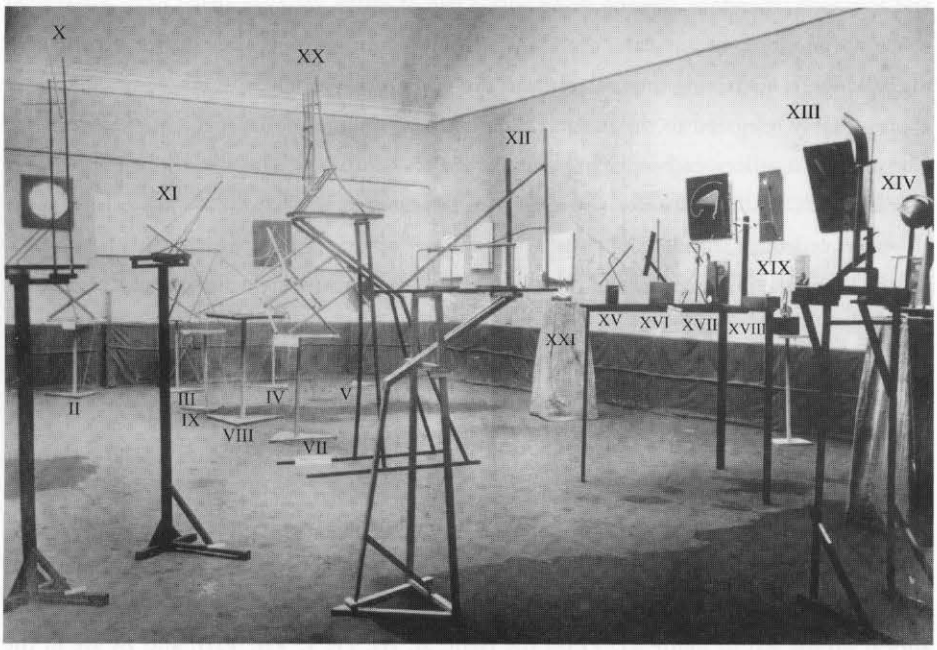
Located on the second floor of 11 Bol'shaia Dmitrovka (now Pushkinskaia), between two of Moscow's most fashionable shopping streets (Kuznetskii most and Stoleshnikov *pereulok*), Mikhailova's former gallery is a much-sought-after exhibition space, both before and after the revolution. It is near the former Stroganov School of Applied Art and VKhUTEMAS, as well as the commercial district around Miasnitskaia, a neighborhood populated by the city offices of the major industrial enterprises. As such, the invitation offers a perfect opportunity—and one not to be missed, given the tremendous difficulties of securing exhibition space—in which not only to launch the activities of the Working Group of Constructivists and declare it as a new force on the Left, but also to publicize the advent of the spatial construction itself. In particular, it is an opportunity to do so within the context of an explicitly *agitational* kind of exhibition, since the OBMOKhU collective has a track record of securing commissions from state organs seeking agitational materials. Fine print along the bottom of the poster advertising the exhibition solicits the attention of potential patrons: "Production organizations, factory committees, and educational institutions are invited to conduct tours" (fig. 39).

Participation in the OBMOKhU exhibition thus guarantees the Constructivists a broader audience for their spatial constructions than they would otherwise have. With luck, it might also assist in finding a permanent home for them.[39] From the point of view of Rodchenko and Ioganson, therefore, tagging along with a trio of much younger artists has a number of strategic functions. In any case, the Constructivist group monopolizes the largest room in the galleries, sequestering themselves from the other nine participants, whose graphic work is presumably relegated to the motley assortment of smaller rooms (fig. 40).[40] Within the Constructivist gallery, each artist has his own territory, into which he places a series of closely related works. I have numbered these, for ease of reference in what follows, in a single overall sequence from *I* through *XXV*. In the remainder of this chapter, I will focus first on Ioganson's spatial constructions and then conclude with a comparative analysis of those by his colleagues in order to uncover the polemic staged therein.

A CATALOGUE OF COLD STRUCTURES (AND ONE MECHANISM)

With the exception of *I*, mounted upon the draped pedestal at the far right edge of figure 41 (the artist's name can just be discerned on a label attached to the pedestal), Ioganson's spatial constructions can be readily distinguished by their triangular bases: *VII* and *VIII* appear on the left in figure 41, *VI* on the right; *II, III, IV, V, VII, VIII,* and *IX* are in the rearground of figure 42. As discussed in the previous chapter, Ioganson's construction drawing (plate 8) and its verso inscription ("The construction of any cold structure in space, or any cold combination of rigid materials, is a *Cross*"; fig. 30) provide a highly rationalized definition of construction in terms of a primary given—the cross. This definition quickly becomes Ioganson's mantra over the course of the next year, so that by the time of its





41, 42 Two views of *Second Spring Exhibition of the OBMOKhU*, with works identified by number. Photographs courtesy of Rodchenko-Stepanova Archive, Moscow (top); Viacheslav Koleichuk, Moscow (bottom).

inclusion within his 1922 theses on invention, "From Construction to Technics and Invention" ("Ot konstruktsii—k tekhnike i izobreteniiu"), it reads as a self-sufficient and self-explanatory principle embedded within an expanded Constructivist agenda.[41] But the artist seems never to have further explicated in prose this central but rather abstruse concept of his Constructivism.

On the one hand, Ioganson's assertion of the cross as foundational can be interpreted simply as a statement of the minimum requirement for any sort of articulated structure: the intersection or flush contiguity of at least two elements. On the other hand, the full import of this aggressively reductive thesis cannot be understood without unraveling Ioganson's rather more hermetic expression, "cold structure." Since this term has generally puzzled historians, it is not surprising to find that in the English translation of Ioganson's 1922 theses, his voice is interrupted by the translator's insertion of an authoritative "*sic*" between "cold" and "structure."[42] This "*sic*" does not signal to the reader an orthographic error, but rather imputes a failure of signification to Ioganson's unauthorized, as it were, conjunction of the two words.

What does Ioganson mean by "cold structure"? A few general possibilities can be quickly mentioned. First, within the climate of anti-expressionism fostered by the Russian avant-garde, this phrase broadly connotes rationalization, cerebration, calculation, numeration, and lucid, simple geometries. Second, it also relates to an expression that is common parlance among sculptors—"cold form" *(kholodnaia forma)*—which refers, unfavorably, to the suppression of *faktura* held to be typical of ancient Greek marbles in which the surface has no trace of having been "worked." Cold form is therefore everything that *faktura*—"the working of the material," as Tarabukin defines it[43]—seeks to overcome. In terms of Ioganson's early sculptural practice in Riga before the revolution, *faktura* is associated with the warmth and touch of modeling in clay (his favored medium at that time) as opposed to the subtractive process of carved cold form (fig. 43),[44] but as we saw in the preceding section, Ioganson queries the continuing relevance of *faktura* to Constructivism. The concept of "cold structure," I would argue, enables him to reconfigure his earlier understanding of *faktura* in new terms having to do with the structural force of the material itself. Such a shift would signify, therefore, not so much a rejection of *faktura* as a realignment of Ioganson's position in accordance with the Russian avant-garde's radical inversion of *faktura*'s conventional significance as an index of authorial presence: "[T]he material [now] dictates form to the artist," Tarabukin argues, "and not the other way around."[45] Third, "cold structure" is a metal-working term that denotes a structure produced without forging or welding. But these three meanings are only generalities. A more specific answer to this question may be found by turning to the spatial constructions themselves.

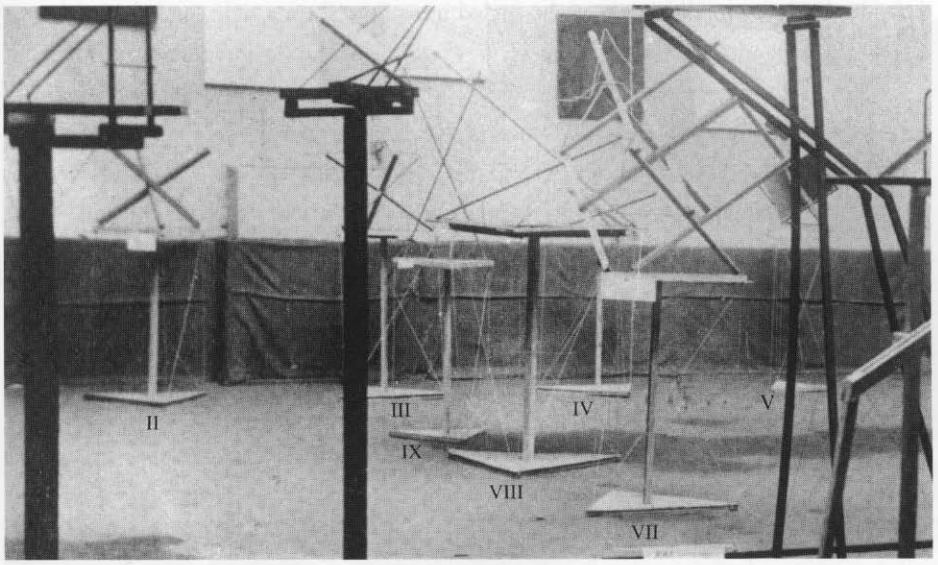
In the Constructivist gallery at the OBMOKhU exhibition, Ioganson shows a small but presumably representative selection of his spatial works produced between late 1919 and May 1921 (figs. 41, 44). Since the bruising of the original photograph at its far right edge unfortunately renders *I* almost illegible in figure 41, we can dispense with it quickly. For the record, it appears to be a small structure consisting in part of a slender, vertically positioned metal

43 Karlis Johansons (Karl Ioganson) with the model Augustins and an untitled figure study. Cesis. ca. 1915. Photograph courtesy of Erna Berkholce, Cesis.

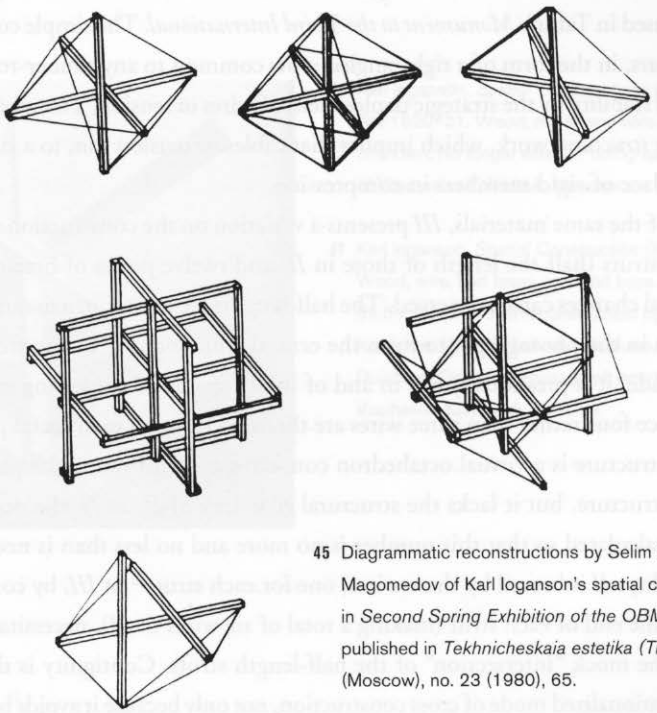
plane crossed at right angles in its upper reaches by a shorter horizontal bar. This may be one of a series of copper constructions made by Ioganson in 1919–20, to which Medunetskii referred in the composition-and-construction debate.[46] Since a copper spatial relief was the Museum Bureau's first purchase of Ioganson's work (in January 1920),[47] it seems plausible to suggest that it is the earliest of the Ioganson series shown in the May–June 1921 exhibition.

I will proceed now to the eight constructions mounted on triangular bases, which I have numbered according to what seems to me the conceptual path of Ioganson's experiment. Of all the constructions in the exhibition, Ioganson's are the most relentlessly antipictorial: they seem to resist our attempts to read their logic off the flat surface of the photograph and demand instead to be remade in the analyst's hands. Essential to my analysis, therefore, have been the efforts of Selim Khan-Magomedov, who, in the 1970s, produced study models of six constructions *(II, III, IV, VI, VII,* and *VIII;* fig. 45), and the neo-Constructivist Viacheslav Koleichuk, who, more recently, reconstructed *II, VII, VIII,* and *IX* for the purposes of exhibition (see figs. 47, 50, 51, 53, 56).[48]

II, III, and *IV,* spaced along the east wall (fig. 44), form a kind of subset within Ioganson's overall series. A photograph taken on a separate occasion presents the three works to-



44 View of *Second Spring Exhibition of the OBMOKhU* (toward east wall), with works by Karl Ioganson *(II, III, IV, V, VII, VIII,* and *IX)*. Photograph courtesy of Viacheslav Koleichuk, Moscow.

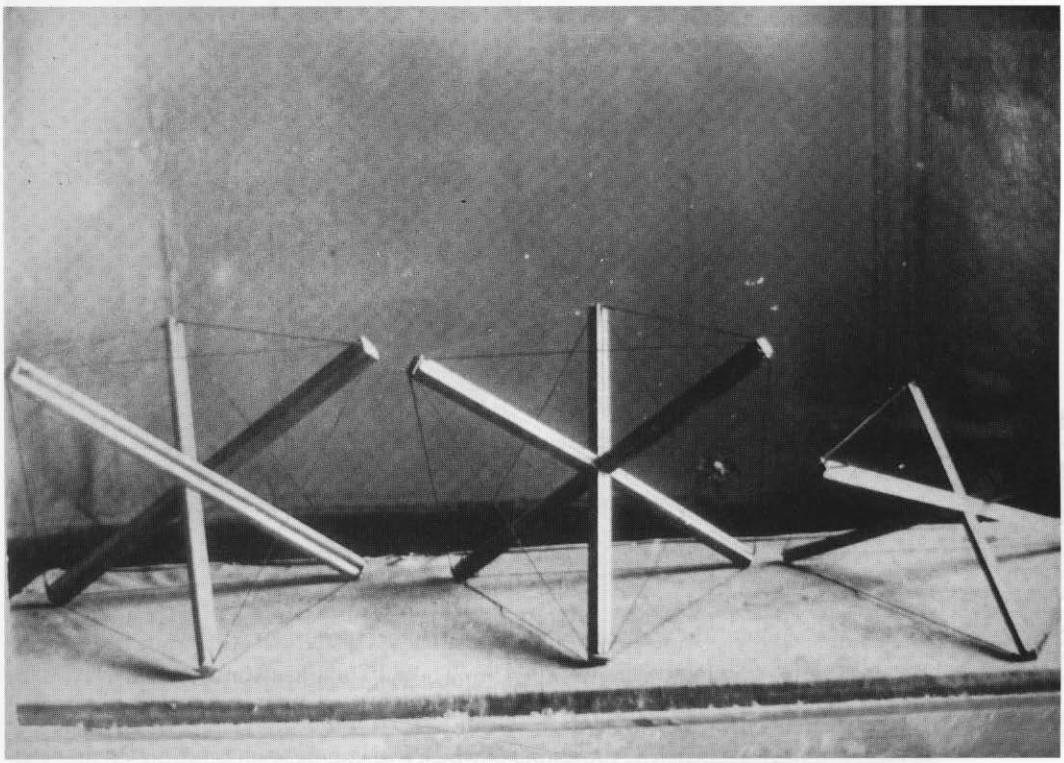


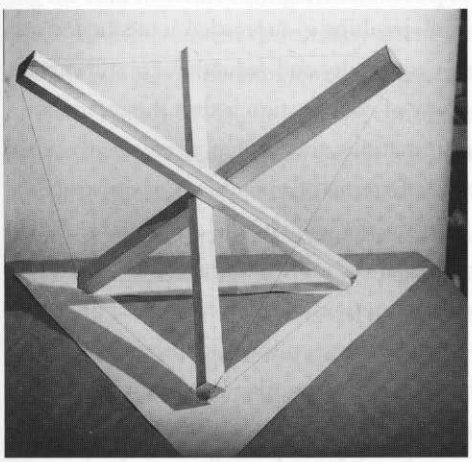
45 Diagrammatic reconstructions by Selim Khan-Magomedov of Karl Ioganson's spatial constructions in *Second Spring Exhibition of the OBMOKhU*. As published in *Tekhnicheskaia estetika (Trudy VNIITE)* (Moscow), no. 23 (1980), 65.

gether in the same triadic sequence, albeit without their bases (fig. 46).[49] *II* and *III* are possible variations for the construction of a right-angled cross; *IV* for that of an acute-angled cross. In *II,* three wooden struts, right-angled in section, form a right-angled spatial cross through the alignment or flush contiguity (and not, significantly, intersection) of their flat sides. Into both ends of each strut is screwed a small metal plate; nine identical lengths of wire cable are then threaded through holes drilled into the plates, pulled taut, and secured. The matrix of bracing wires in tension and the centralized contiguity of the struts in compression form a rigid structure capable of bearing loads without collapsing or undergoing permanent deformation of its members. The structure is indifferent to gravity and orientation: under suspension and rotation, it will retain its rigidity. Its equilibrium is, in short, locked in.

It is this quality—rigidity—that Ioganson has in mind, I would argue, when he uses the expression "cold structure." For Ioganson, a "cold structure" is a rigid structure in which all the forces acting upon it, both internally and externally, are in a state of equilibrium.[50] This definition, confirmed by Vladimir Stenberg's late reminiscence that Ioganson used the term "cold structure" to refer specifically to a "nonkinetic, nonmechanical structure" *(nepodvizhnaia, nemekhanicheskaia struktura),*[51] holds for all of Ioganson's spatial constructions at the OBMOKhU exhibition, with the exception of *VIII;* besides this single exception, Ioganson's abiding interest is not the construction of apparatuses with movable parts, but the pursuit of rigid structure. Though *II* is a rigid structure, it is constructed entirely without recourse to rigid joints. Tatlin's censure of welding, on account of the violence it wreaks upon the material, is thus taken further, for Ioganson avoids even the traditional carpentry slip joints and pegs used in Tatlin's *Monument to the Third International.* The simple contiguity of three wooden bars, in the form of a right-angled cross common to any timber-roof construction, is afforded stability by the strategic deployment of wires in tension. The wire cables are therefore doing *structural* work, which implies that cables in tension can, to a significant degree, take the place of rigid members in compression.

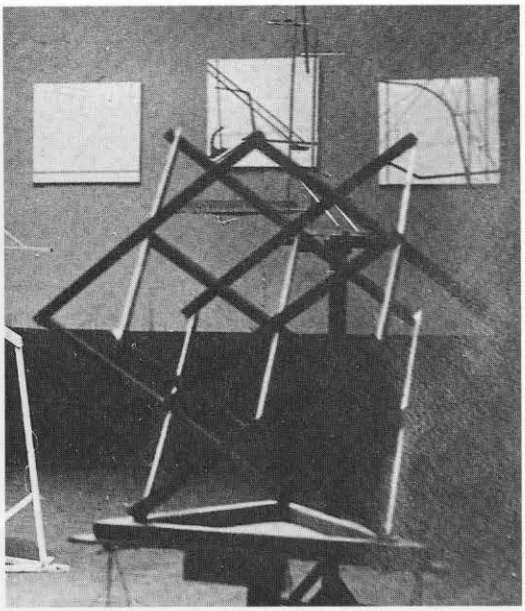
Made of the same materials, *III* presents a variation on the construction of a right-angled cross. Six struts (half the length of those in *II*) and twelve pieces of bracing wire are used. Two crucial changes can be observed. The half-lengths are joined, in a manner unfortunately not visible in the photograph, to form the central "intersection" of the cross. However the joint is made, it is presumably not in and of itself capable of conferring stability upon the whole, since four rather than three wires are threaded through each metal plate. The resulting rigid structure is a virtual octahedron consisting of eight triangular planes or faces. *III* is a cold structure, but it lacks the structural economy of *II.* In *II,* the number of wires is precisely calculated so that this number is no more and no less than is necessary for structural stability: *II* is braced by three wires, one for each strut;[52] in *III,* by contrast, two wires run from the end of each strut (making a total of six wires in all), necessitated by the instability of the mock "intersection" of the half-length struts. Contiguity is thus shown to be the more rationalized mode of cross construction, not only because it avoids both the difficulty





46 Karl Ioganson. *Spatial Constructions (II, III,* and *IV).* 1920–21. Wood, metal, and wire. Dimensions unknown. No longer extant. Photograph courtesy of Viacheslav Koleichuk, Moscow.

47 Karl Ioganson. *Spatial Construction (II).* 1920–21. Wood, wire, and brass on wood base. 49.5 × 56.5 × 62 cm. 1993 reconstruction by Viacheslav Koleichuk. Wilhelm Lehmbruck Museum, Duisburg, Germany. Photograph courtesy of Viacheslav Koleichuk, Moscow.

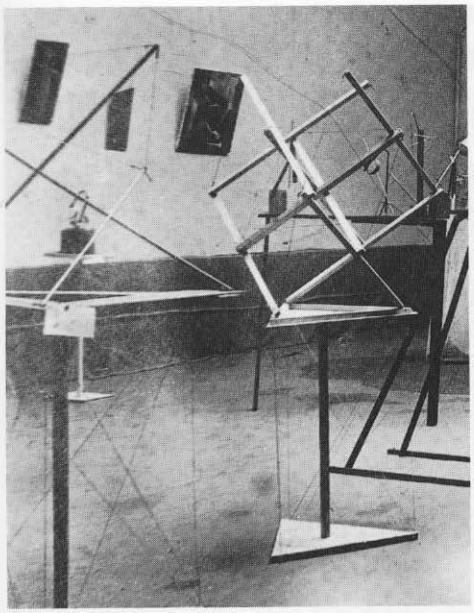


48 View of *Second Spring Exhibition of the OBMOKhU* (toward west wall), with work by Karl Ioganson (*VI*). Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

and expense of joints (the weakness of traditional timber construction is always in the joints), but also because it reduces material expenditure overall. In other words, *II* and *III* have the same structural virtues, but *II* gets them for less. Cold structure itself is therefore only the first of Ioganson's several objectives, the second of which is to impose upon construction the greatest possible economy of material and energy: What is *the minimum number of elements* required in order to produce a cold spatial structure?

Even when the wire cables are unequal in length, resulting in a sprawled acute-angled spatial cross, as in *IV,* the constructive principles of contiguity and reduction are still capable of producing a rigid structure. Ioganson's economy of construction is thus shown to have a certain flexibility: it applies in all possible cross formations, these being, as repeatedly stated by the Constructivist, the basis of all cold structures. In terms of an economy of construction, then, *II* and *IV* are clear advances upon *III.* Within the logic of the experiment, *III* becomes the fall guy, serving to throw into sharper relief the more rationalized solutions presented by those that flank it. The triad demonstrates not only Ioganson's pursuit of cold—or rigid—structure, but also his search for a universally applicable constructive system involving the least possible material expenditure: minimum outlay for maximum return. With such an economy of expenditure, Ioganson demonstrates that rigidity is not dependent on the presence of rigid joints, but can be produced through tensile stress. In the name of structural economy, therefore, Ioganson foregrounds the deployment of wire cable as an integral *structural* member of the construction, rather than as more simply the means of its assembly.

Upon the basis of his findings in the triad, Ioganson begins to generate larger, more com-

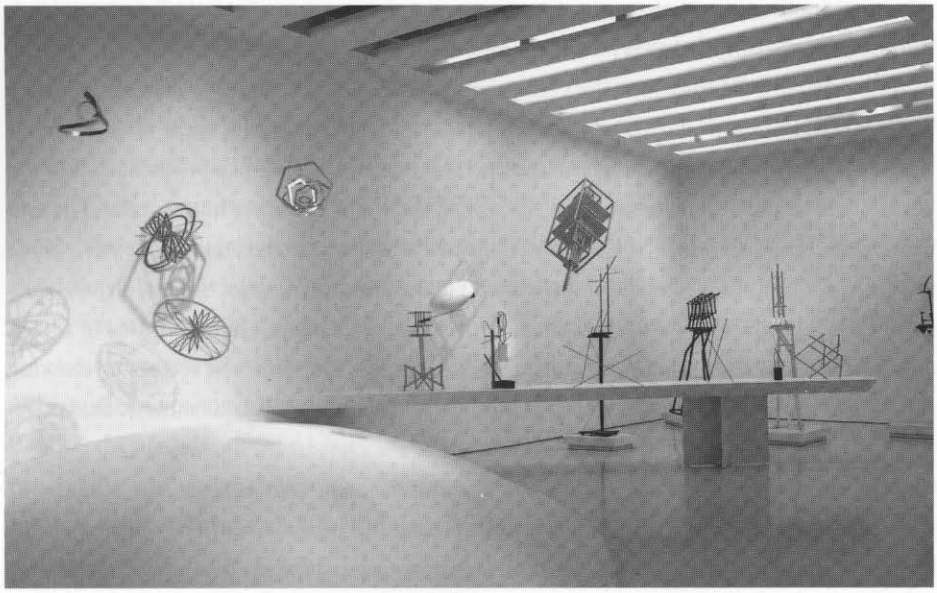


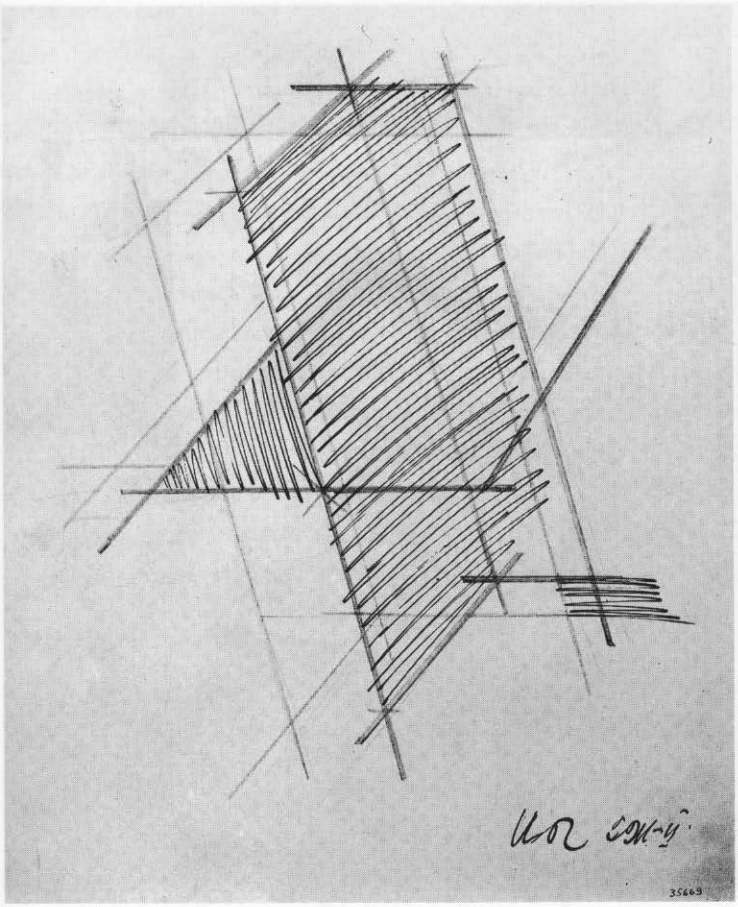
49 View of *Second Spring Exhibition of the OBMOKhU* (toward south wall), with works by Karl Ioganson (foreground; *VIII* and *VII*), and Konstantin Medunetskii (rear; *XIX, XVI, XVII,* and *XVIII*). Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

plex constructions.[53] With *VI* (fig. 48) and *VII* (fig. 49), he factors in a new requirement: the *modular extension* of the primary cold structure. All the units of wood deployed are cut to a standard length. This is at first a little difficult to see because, when mounted, both *VI* and *VII* are tipped onto three points. Displacement onto a diagonal axis lends dynamism to the right-angled articulation, but without compromising its rigidity, further underscoring the cold structure's antigravitational capacity for rotation and reorientation. At the same time, the displacement deflects any attempt to read the structures "in sum," since each admits of radically different views (see figs. 41, 42, 50, 51).

Both *VI* and *VII* begin with the contiguous arrangement of three wooden struts in the form of a right-angled cross. But in *VI,* instead of attaching bracing wires to each end of the three original struts, Ioganson attaches two wooden bars at their midpoint. Each is of the same length as the original struts; one is attached vertically, the other horizontally. The end of each of these additional bars is then connected with another, to create, as it were, three frames in all. Each frame lies in the horizontal plane of one of the three original struts, while two of the three original struts form the internal cross beam of each frame. A total of fifteen struts is used in *VI,* and there is no bracing wire. (An ink, graphite, and red pencil drawing now preserved in the State Russian Museum [Gosudarstvennyi russkii muzei], St. Petersburg, appears to relate to the modular extension of the cross in *VI;* fig. 52.)

Replacing six of the fifteen rigid members with bracing wire, as Ioganson does in *VII* (fig. 49), produces a more complex but nevertheless still rigid version of the modular extension of the basic cross. At each end of the three original struts, Ioganson attaches one additional strut, in either a vertical or a horizontal position with respect to the basic cross

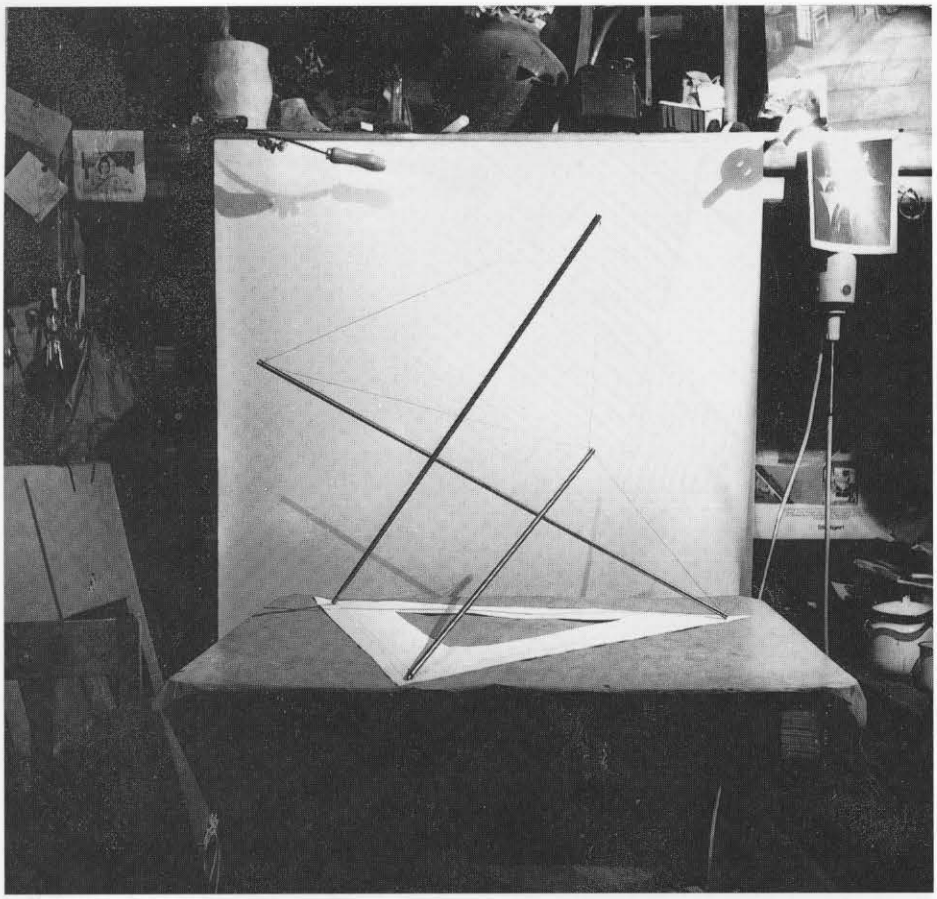




50 View of *The Great Utopia: The Russian and Soviet Avant-Garde, 1915–1932,* with 1991 reconstructions by Viacheslav Koleichuk. Solomon R. Guggenheim Museum, New York. 1992. Photograph by David Heald, © The Solomon R. Guggenheim Foundation, New York.

51 View of *The Great Utopia: The Russian and Soviet Avant-Garde, 1915–1932,* with 1991 reconstructions by Viacheslav Koleichuk. Solomon R. Guggenheim Museum, New York. 1992. Photograph by David Heald, © The Solomon R. Guggenheim Foundation, New York.

52 Karl Ioganson. *Untitled.* February 29, 1921. Ink, graphite, and colored pencil on paper. 31.5 × 24 cm. State Russian Museum, St. Petersburg, inv. no. RM s.r.B./21. Photograph courtesy of State Russian Museum, St. Petersburg.



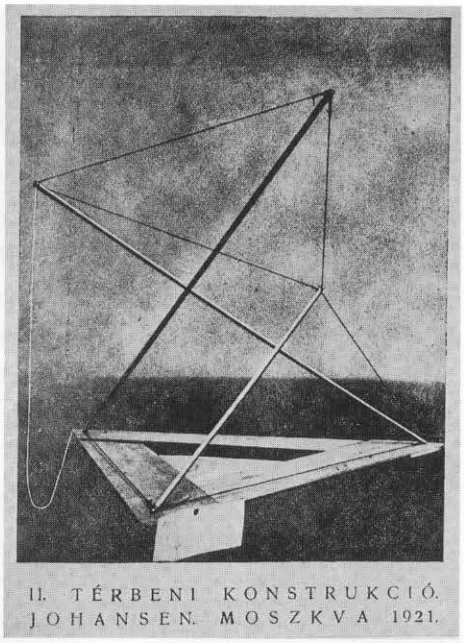
53 Karl Ioganson. *Spatial Construction (VIII).* 1921. Tubular steel and wire on wood base. 63.5 × 88 × 79 cm. 1993 reconstruction by Viacheslav Koleichuk. Wilhelm Lehmbruck Museum, Duisburg, Germany. Photograph courtesy of Viacheslav Koleichuk, Moscow.

configuration, making a total of nine struts. Nine of the fifteen bracing wires, all of which are of equal length, are in the same position as in *II;* the remaining six are stretched between the free ends of each of the additional struts. This once again demonstrates that strength and rigidity depend on neither mass nor weight: steel cables are thinner and stronger than timber struts. With *VI* and *VII,* Ioganson's economy of construction thus arrives, via the standardized modular unit, at the possibility of potentially infinite expansion within a nonrelational progression. Ioganson is the only one in the Constructivist gallery to have worked with the principle of modularity, a principle that Gan applauds, in another context, as comprising "Nothing accidental, nothing not accounted for, nothing as a result of blind taste and aesthetic arbitrariness."[54]

From this point on, both the stakes and the ambition of Ioganson's experiment escalate, along initially related but ultimately radically divergent paths. In the last two constructions of the series, Ioganson replaces the wooden struts with metal rods, which opens up new possibilities. While the centralized contiguity of the three struts is fundamental to the "economy" of the cold structure of *II* and *IV* through *VII,* such contiguity is largely dispensed with in *VIII* (figs. 44, 53–55). Composed of three metal struts and seven bracing wires, the formerly contiguous cross is displaced in *VIII* in a kind of sprawling motion, so that only two of the rods, which slide along each other, remain in any kind of contiguous relationship; the third simply "floats" in the net of bracing wires. *VIII* is not a cold structure, but a mechanism (the type of structure Vladimir Stenberg later states Ioganson is *not* making), the single exception in Ioganson's series. *VIII* cannot support loads, nor tolerate rotation or suspension, without alteration to its structure. *VIII* demonstrates not rigidity, but the process by which rigidity is established: the finding of the delicate equilibrium of compressive and tensile forces essential for stability. "With any stimulus to the freely floating strut," Koleichuk writes, "the precarious balance of the composition's forces is destroyed," but this movement will gradually subside and the structure's members will come to rest once again in a stable formation.[55]

In accordance with the pedagogical deliberateness of Ioganson's series, *VIII* is a meditation upon the intrinsic and perpetual motion of all structures, *including rigid ones:* since all structural materials respond to the forces that act upon them, there can be no perfectly rigid structural materials, which means that all structures sustain some degree of movement, however imperceptible this is to the naked eye. First published by the Hungarian Communist Bela Uitz in 1922 (fig. 54), and again in 1929 by the Hungarian Constructivist László Moholy-Nagy (fig. 55), *VIII* will quickly become the most well-known of Ioganson's constructions in the West. It will serve Moholy-Nagy, in particular, as a critique of that which he derides elsewhere as the otherwise "static" Constructivism of the Russian Constructivists, and therefore as a pedigree and exemplar for his own explicitly kinetic interpretation of Constructivism.[56] But, contrary to Moholy-Nagy's overdetermination of it, *VIII* is not, in fact, the last word in Ioganson's series.

The final work of the series is, rather, the little known *IX,* partially dissolved in the installation photograph by the flood of light coming from above, which renders one of its three metal struts all but invisible in the web of cables, struts, and pedestals that amasses at the east end of the gallery (figs. 44, 56). *IX* consists of three steel struts, each about a meter in length, and nine bracing wires. The almost illegible third strut rises, inclined to the right, from the corner of the triangular base closest to us. Centralized contiguity is here not only displaced, as in *VIII,* but made wholly redundant. There is no cross as such, or rather, there is only the ghost of a former contiguity. It is as if *IX,* which has the same ratio of compressive to tensile members as *II,* drags the spatial cross of *II* skyward, resulting in the elongation of the members to such an extent that they no longer touch one another. "It is as if," Koleichuk writes, "they are floating in a net of . . . wires."[57] The elimination of centralized



54 Karl Ioganson. *Spatial Construction (VIII).* 1921. As published in *Egység* (Vienna), no. 2 (June 1922), with the title *Construction in Space (Térbeni konstrukcío).* Photograph courtesy of Annely Juda Fine Art, London.

contiguity in *IX* exacerbates the perceptual ambiguity already noted with regard to *VI* and *VII:* the production of a fundamental asymmetry, a kind of unpredictability of structure that presents radically divergent versions of itself according to the vantage point of the viewer. There is no demarcation of interior from exterior in this disorienting structure; nor would it be possible to "clad" *IX,* to provide it with a virtual skin (as is possible with the octahedron of *III*).

Despite the fact that its rigid members do not touch, *IX* is nevertheless capable of sustaining rotation, suspension, and loading forces without permanent deformation or collapse. *IX* presents, therefore, an entirely new order of cold structure that does not depend whatsoever on rigid joints, nor even on the contiguity of the cross. Instead, *IX* owes its stability to a precisely configured interplay between, or mutual annihilation of, the forces of discontinuous compression (in the metal rods) and those of continuous tension (in the taut wire cables). The rigidity of *IX* is secured by carefully factoring in the *length* of its struts and tendons. (Previously in the series, length had no bearing on the structure's stability, as *IV* demonstrates.) The factoring in of length affords a radical nonhierarchy of material within the structure: no material is subordinate to, nor more important than, the other. Under tension, the thin wire cables are of equal value, structurally, to the rigid members. The wires are structural members, not merely assembly elements: if one of the nine were cut, *IX* would collapse. Gutted of any kind of centralized core or nucleus, *IX* turns out to be the most acute dramatization of the principle of tensility. It demonstrates that Ioganson's cold structure need not, in fact, be dependent upon any kind of internal supporting armature. With *IX,* the Con-

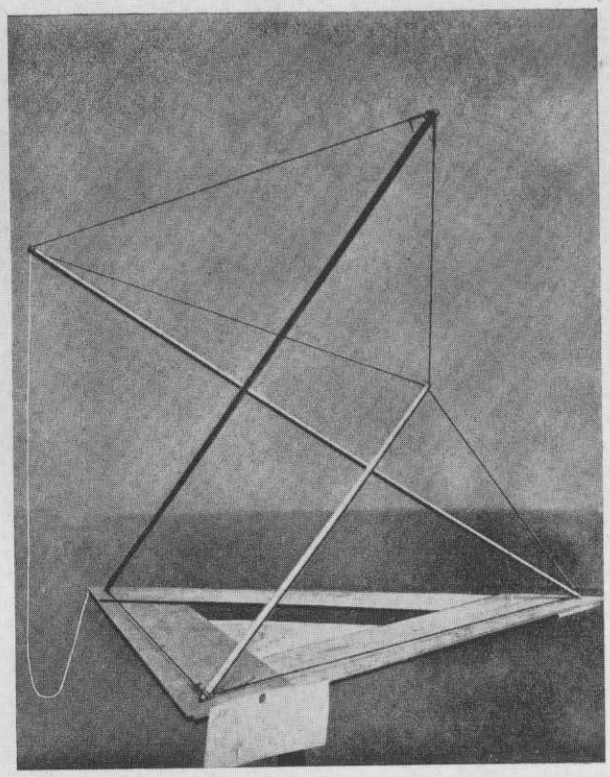


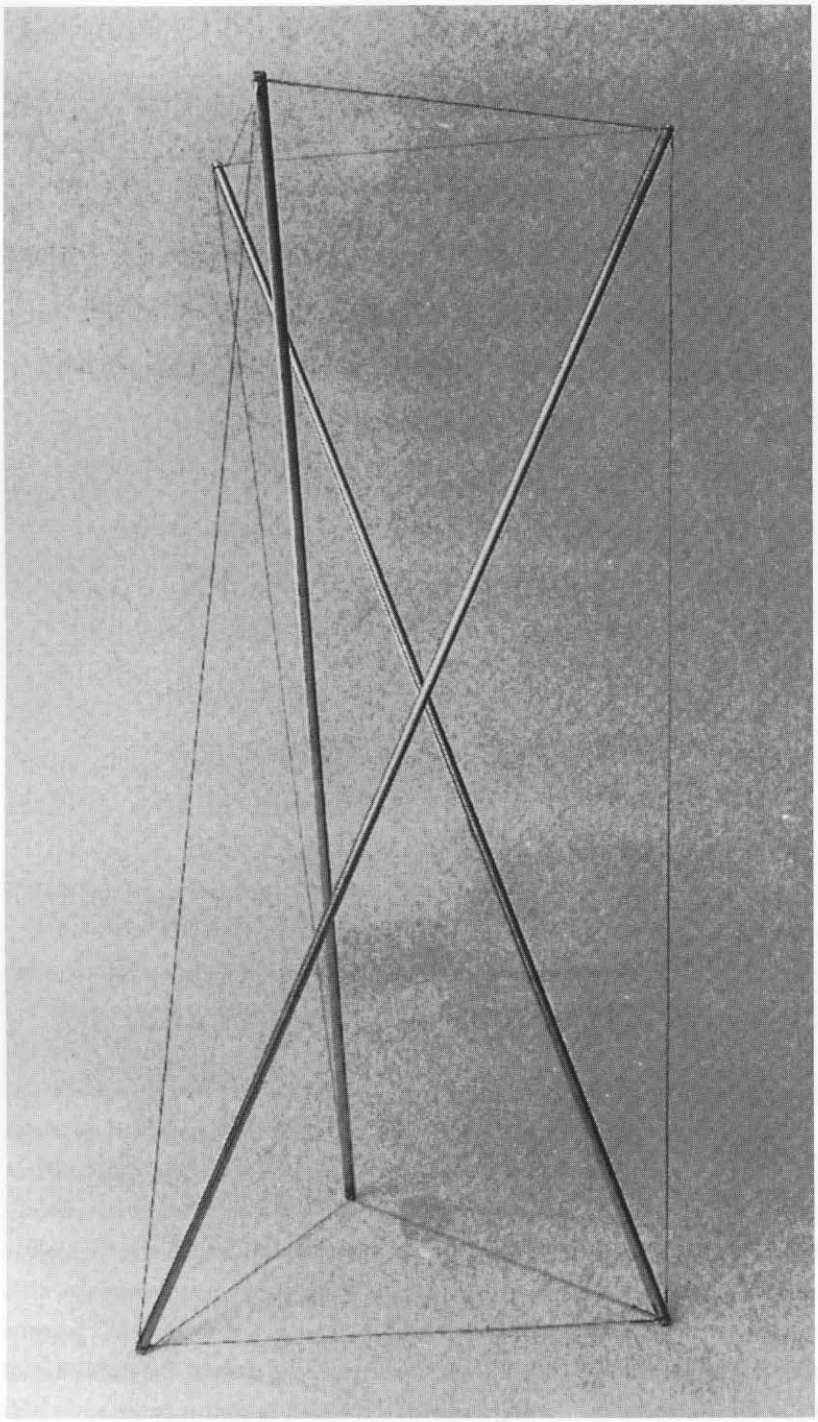
abb. 116 johansen, moskau 1921
gleichgewichtskonstruktion (zieht man an dem faden, gerät die plastik in eine andere, gleich wie die erste, ausbalancierte stellung).

der heutige plastiker weiß kaum etwas von dem neuen aufgabenkreis des ingenieurs. komposition, goldener schnitt und ähnliches werden an akademien wohl gelehrt, aber nichts von statik, obwohl ihre kenntnis mehr als die ästetischen regeln zu einer ökonomischen arbeitsweise führen könnte. die konstruktivisten versuchten die fesseln zu sprengen. sie sagten, um von einem falschen etos, von einer übertriebenen verehrung verkalkter werte loszukommen: die kunst ist tot. es lebe das leben!

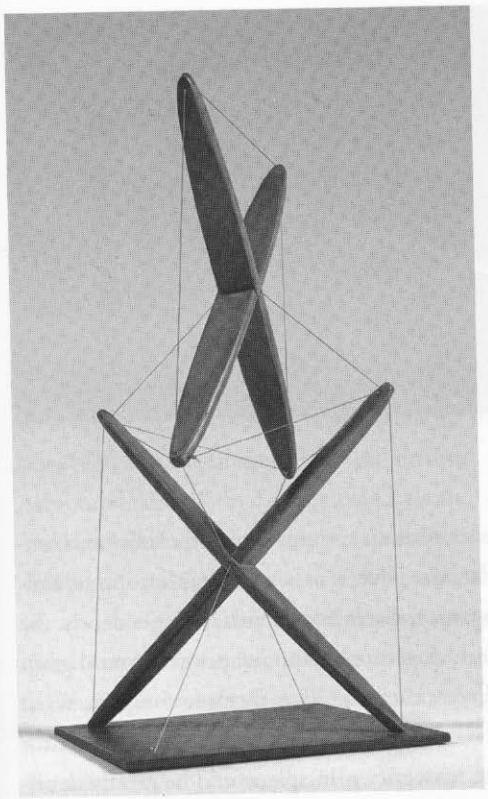
55 Karl Ioganson. *Spatial Construction (VIII).* 1921. As published in László Moholy-Nagy, *Von Material zu Architektur* (Munich: Langen, 1929), 133. Photograph courtesy of Hattula Moholy-Nagy.

structivist therefore transcends his own rhetoric concerning the cross as the fundamental principle of all cold structures, discovering a new way in which to construct them.

Koleichuk argues that *IX* is an example of what would now be called in the West a "tensegrity system." In his view, Ioganson is therefore to be credited with having been "the first to demonstrate this very simple spatial modulus (which belongs to the new class of constructions that were discovered again . . . by B[uckminster] Fuller in the late 1950s and named by



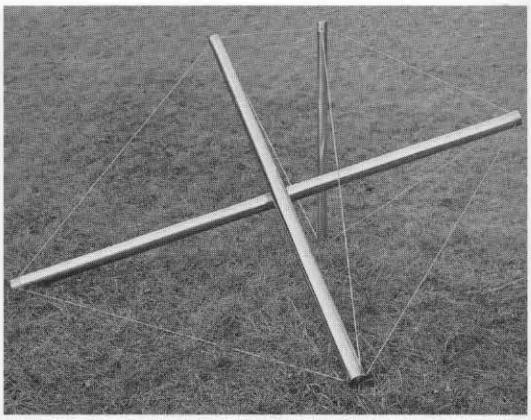
56 Karl Ioganson. *Spatial Construction (IX).* 1921. 1991 reconstruction by Viacheslav Koleichuk. Photograph courtesy of Rossiiskii khudozhestvenno-proizvodstvennyi kombinat, Moscow.



57 Kenneth Snelson. *Early X Piece.* 1948. Wood and nylon. 29.2 × 13.7 × 13.7 cm. Collection of the artist. Photograph courtesy of the artist.

him tensegrity)."[58] While Koleichuk's argument raises complex issues, a clarification should be made: Although Fuller did invent the name "tensegrity"—a contraction of "tension" and "integrity"—he was not the one to have "discovered [it] again," despite his claims (at least in the public realm) to the contrary. In fact, the discovery of this novel structural principle was made in 1948 by a young American artist whom Koleichuk also mentions, Kenneth Snelson. In the summer of 1948, Snelson went to study with Josef Albers, who was then teaching at Black Mountain College, near Asheville, North Carolina. Fuller also was at Black Mountain that summer as a visiting professor, designing the geodesic domes for which he would become renowned. Snelson was captivated by the Bauhausian "less is more" principle evident in Albers's work and by Fuller's radical spatial experiments. One of the first works he made upon his return home was *Early X Piece,* which he dated to December 1948 (fig. 57): two rigid members—wooden "X" forms—are suspended, without touching one another for support, in a matrix of nylon tension lines. *Early X Piece* maintains its form irrespective of external factors, such as gravity. When Snelson showed it to Fuller the next year, the latter was impressed by its "discontinuous structure," and in a letter credited Snelson with the "original demonstration" of discontinuous compression and continuous tension.[59]

If *Early X Piece* is what credits Snelson with the "discovery" of an as-yet-unnamed struc-



58 Kenneth Snelson. *X-Piece*. 1967. Stainless steel. Collection of the artist. Photograph courtesy of the artist.

tural principle, then Ioganson's *IX*, with its discontinuous compression and continuous tension, must credit the Constructivist in a similar way. That is to say, the implication of Koleichuk's argument is that both Snelson and Ioganson discover or invent, independently, the same structural principle. In a positivist account, Ioganson's temporal priority would grant him the greater originality, but the matter of invention is significantly more complex. What must be factored in is an assessment of what is made of the new principle by the inventor and his contemporaries. As is well known, the tensegrity principle would be greatly developed in the postwar period by Snelson, for whom it would become the basis of his life's work—articulated in structures ranging from the relatively simple (see, for example, fig. 58), to the highly complex (such as *Needle Tower* [1968])—as it would later become for many others. But what did the Constructivist make of it? We know that in early 1922, Ioganson begins to represent himself as an "inventor," and that Lissitzky refers to him as such in a 1922 Berlin lecture.[60] We have no record, however, that Ioganson refers to *IX* in any specific way, nor will he, unlike Snelson and Fuller, patent the principle.

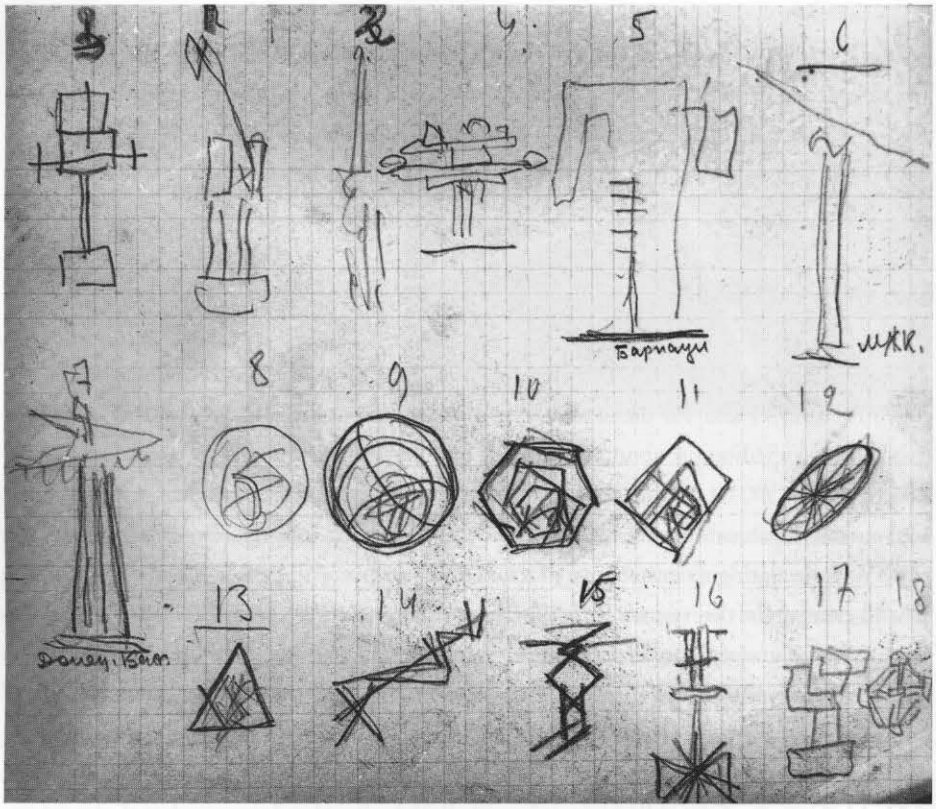
If the significance of *IX* is not grasped at the time of its exhibition, an important reason for this is that, while tensile structures date to antiquity, it is only with the advent of high-strength steels after the Second World War that cables of extraordinarily high tensile strength can be made and thus a full exploration of tensile stress as a structural principle takes place. Snelson and Fuller are able to take up the promise of the tensegrity principle in a way that was, I am suggesting, *materially* impossible for Ioganson. Furthermore, without the great body of space-frame work produced by architects in the 1950s and 1960s, and in the realm of sculpture by Snelson and Russian Neo-Constructivists such as the Movement Group (Gruppa "Dvizhenie"), would or could we recognize Ioganson's invention? Would or could he, for that matter? Indeed, it would seem that Koleichuk is able to recognize the structural principle of *IX* not despite, but because of, its later "discovery." The very recognizability of Ioganson's *IX* as a significant invention, in other words, is hinged upon that which comes after it. The fact that nothing seems to have issued from *IX* at the time of its production re-

veals, therefore, a blind spot in the essentially romantic model of invention in which Loganson is invested: that invention is not only a matter of an individual's aspirations, but also, and crucially, of a set of historical conditions beyond his or her control. Unfortunately for the Constructivist, *IX* is perhaps one of those inventions that, as Vladimir Shklovsky would put it in another context, "came too early."[61]

SYSTEMIC INVENTION

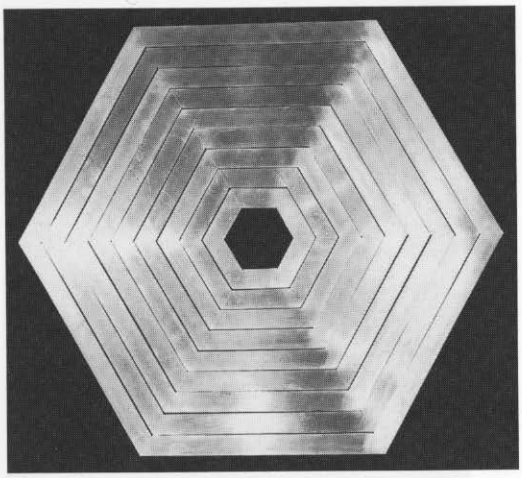
To summarize: Loganson's *II, III,* and *IV* declare the cross as the fundamental principle of cold structure; *VI* and *VII* demonstrate its modular extension; and *VIII* and *IX* transcend it—*VIII,* as a meditation upon the intrinsic and perpetual motion of all (including rigid) structures, and *IX,* by ridding cold structure of any internal armature whatsoever. Considered overall, Loganson's sequence constitutes an unrelenting investigation of tensility in the name of formulating a constructive practice with the greatest possible economy of materials and energy. (In this regard, Russia's material shortage in the post–Civil War period has productive poignancy, insofar as it could be said to have stimulated, rather than circumscribed, this investigation.) His spatial experiment seeks to formulate, in short, a mode of production that could eradicate, as Nikolai Ladovskii has defined it, the excess and relationality of composition.

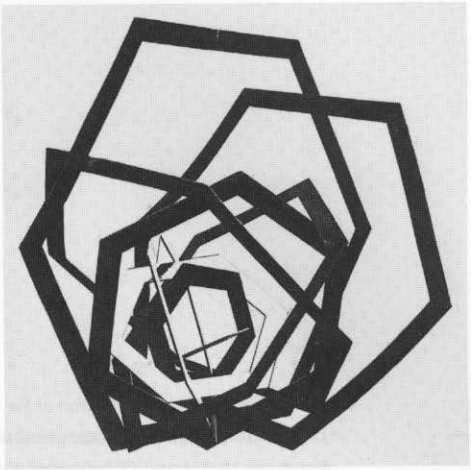
Of his Constructivist colleagues, it is with Rodchenko that Loganson has the most engaged and sustained dialogue. Rodchenko's pictorial inventory describes three distinct series of spatial constructions (fig. 59). The first series, dating to 1918–19, consists of cantilevering planes, cut in plywood in a limited range of shapes, slotted into one another and painted white (sketches 1 through 7). In his second and third series, of 1920–21, Rodchenko rejects this compositional mode of assembly of heterogenous forms in favor of uniform elements, homogenous materials, and nonrelational structures (sketches 8 through 18). In the second series, the *Hanging Spatial Constructions,* four of which—*XXII, XXIII, XXIV,* and *XXV*—are suspended at various intervals from three wires that cross the ceiling diagonally (fig. 41), Rodchenko elaborates the nascent principle of deductive structure he developed in the course of the composition-and-construction debate: the very structure of the work reveals the process of its production.[62] Each has been produced in the same way: on a sheet of plywood, Rodchenko drew a geometric figure using a compass or ruler, repeating the given figure to form a regularly diminishing pattern. He then sawed the plywood along these lines and rotated the resulting ribs in space, thereby giving spatial volume to the once-flat plane (see figs. 60, 61). Some of the ribbed elements were then fixed to one another with wire. As in Loganson's spatial constructions, these wires are removable, so that the constructions can be collapsed and archived. (At least three *Hanging Spatial Constructions* are evident—in their collapsed state—in Mikhail Kaufman's 1922 studio photograph of Rodchenko posing in Constructivist overalls of his own design [fig. 62].)



59 Aleksandr Rodchenko. *Untitled.* n.d. (ca. 1921). Pencil and blue pencil on squared paper (torn from a notebook). 15 × 17.7 cm. Rodchenko-Stepanova Archive, Moscow. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

While the geometric figure initially selected and the width of the ribs are products of the artist's subjective choice, this is somewhat mitigated by Rodchenko's recourse to a universal planar geometry. The deductive structure of the *Hanging Spatial Constructions* is an important example of the laboratory Constructivists' contribution to the vanguard inversion of the conventional significance of *faktura:* as Tarabukin expresses it, "the material [now] *dictates* form to the artist." There remains, however, a crucial difference between Rodchenko's and Ioganson's respective systemic structures in the Constructivist gallery. In Hubertus Gassner's discussion of the Constructivists' spatial constructions, "systemic structure" is equated with "cold structure."[63] This is problematic, since Rodchenko's *Hanging Spatial Constructions* are not cold structures. As discussed earlier, "cold structure" has a specific meaning within the Constructivist orbit of 1921—namely, rigidity. Of Ioganson's series, only his mechanism, *VIII,* broaches the question of movement: for movement to occur, the force must be more substantial than the weight of the floating metal rod itself. His mechanism is

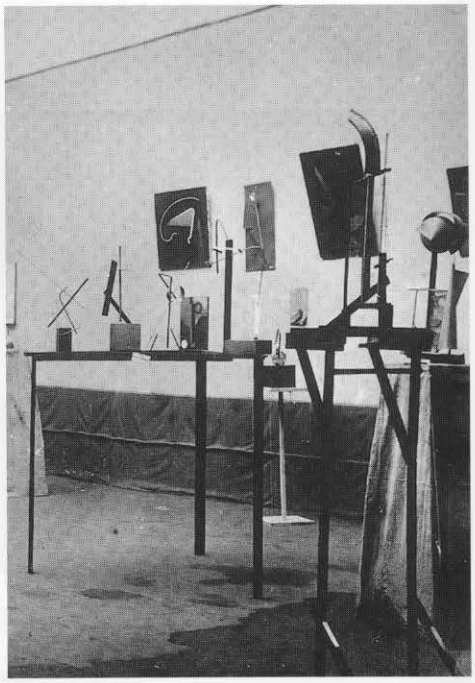




60 Aleksandr Rodchenko. *Hanging Spatial Construction, no. 10* (closed view). ca. 1920–21. Reconstruction by Aleksandr Lavrent'ev. Rodchenko-Stepanova Archive, Moscow. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

61 Aleksandr Rodchenko. *Hanging Spatial Construction, no. 10* (open view). ca. 1920–21. Plywood, open construction partially painted with aluminum paint, and wire. Dimensions unknown. No longer extant. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.

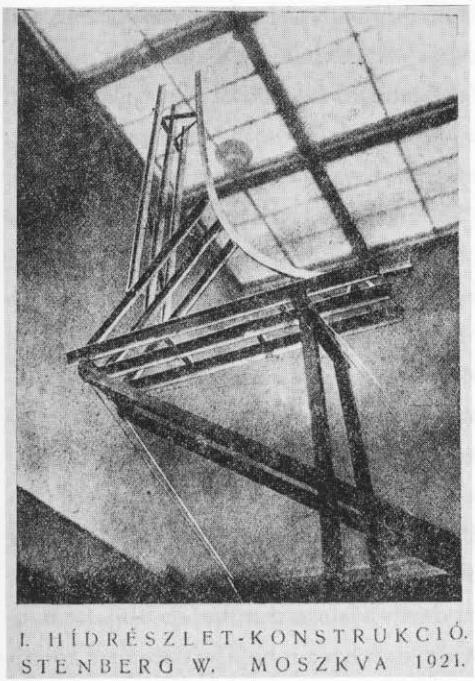
62 Aleksandr Rodchenko standing before dismantled *Hanging Spatial Constructions.* 1922. Photographed by Mikhail Kaufman. Photograph courtesy of Rodchenko-Stepanova Archive, Moscow.



63 View of *Second Spring Exhibition of the OBMOKhU* (toward south wall), with works by Konstantin Medunetskii *(XV, XVI, XVII, XVIII,* and *XIX)* and Georgii Stenberg (far right; *XIII* and *XIV*). Photograph courtesy of Viacheslav Koleichuk, Moscow.

both kinetic and stable, but alternately so. By contrast, the slightest variation in air current sets Rodchenko's delicate ellipse, *XXIV (Oval Hanging Spatial Construction, no. 12),* into motion, a kineticism further accentuated by the aluminum paint that the artist has applied to some of its ribs.[64] The kinetic quality of Rodchenko's second series of systemic constructions indicates, therefore, that "cold structure" is not a concern that is shared by Ioganson and Rodchenko, but rather one that divides them.

Medunetskii's small spatial constructions—four of which *(XV, XVI, XVII, XVIII)* are arranged upon an elevated triangular table, while a fifth *(XIX)* rests on a lower pedestal against the wall (figs. 42, 63)—are assemblages of industrially processed materials and found objects, the detritus of Russia's infant industrialism. Medunetskii believes that working in three dimensions in and of itself eradicates any residual fetishism of material surfaces: "It's good that we have moved away from drooling over surfaces and from textural *[fakturnoi]* beauty in painting. Material demands construction, and in spatial objects there is none of the old drooling over the material."[65] Notwithstanding this conviction, Medunetskii's spatial constructions are well characterized by Gassner as "warm" constructions "based on materials and not on a structural system."[66] Each construction, in other words, is a small laboratory of contrasting *faktura* (understood now in the reductive sense in which Medunetskii himself uses it—that is, as merely "texture"), ostensibly not unlike Tatlin's "selections of materials" but with several important differences: Medunetskii's constructions proclaim their complete independence from the wall; their articulation of space is explicitly linear; and their



64 Vladimir Stenberg. *KPS VI.* 1921. As published in *Egység* (Vienna), no. 2 (June 1922), with the title *Bridge Construction (Hídrészlet-konstrukcío).* Photograph courtesy of Annely Juda Fine Art, London.

points of contact are, as Christina Lodder notes,[67] reduced to an absolute minimum. Consider, for example, the configuration of cantilevering metal rods, *XIV,* at the far left of the table, wherein each rod intersects another and one even punches through the cubic "base" that "supports" the entire structure. Medunetskii's interest in explicating the force resistance of materials does not transcend the more general principle of compositional accretion: in *XIX* (fig. 34), the frank malleability of the S-shaped tin strip is juxtaposed with the utterly resistant curvature of the iron rod. This contrast of tin and iron elements is then anchored to the base, compositionally, by a second formal and material juxtaposition: the brass triangular plane and the zinc coupling ring. These contrasts are further accentuated by the distinct colorations of the materials, both inherent (the yellow sheen of the brass) and applied (the painted red iron rod and the faux marbling of the metal base).[68] Despite his statement to the contrary, Medunetskii's evident pleasure in exploring contrasts of material texture for the sake of demonstrating those contrasts leads him to a concern with internal formal relationships—relationships that can only be described as relational and compositional.

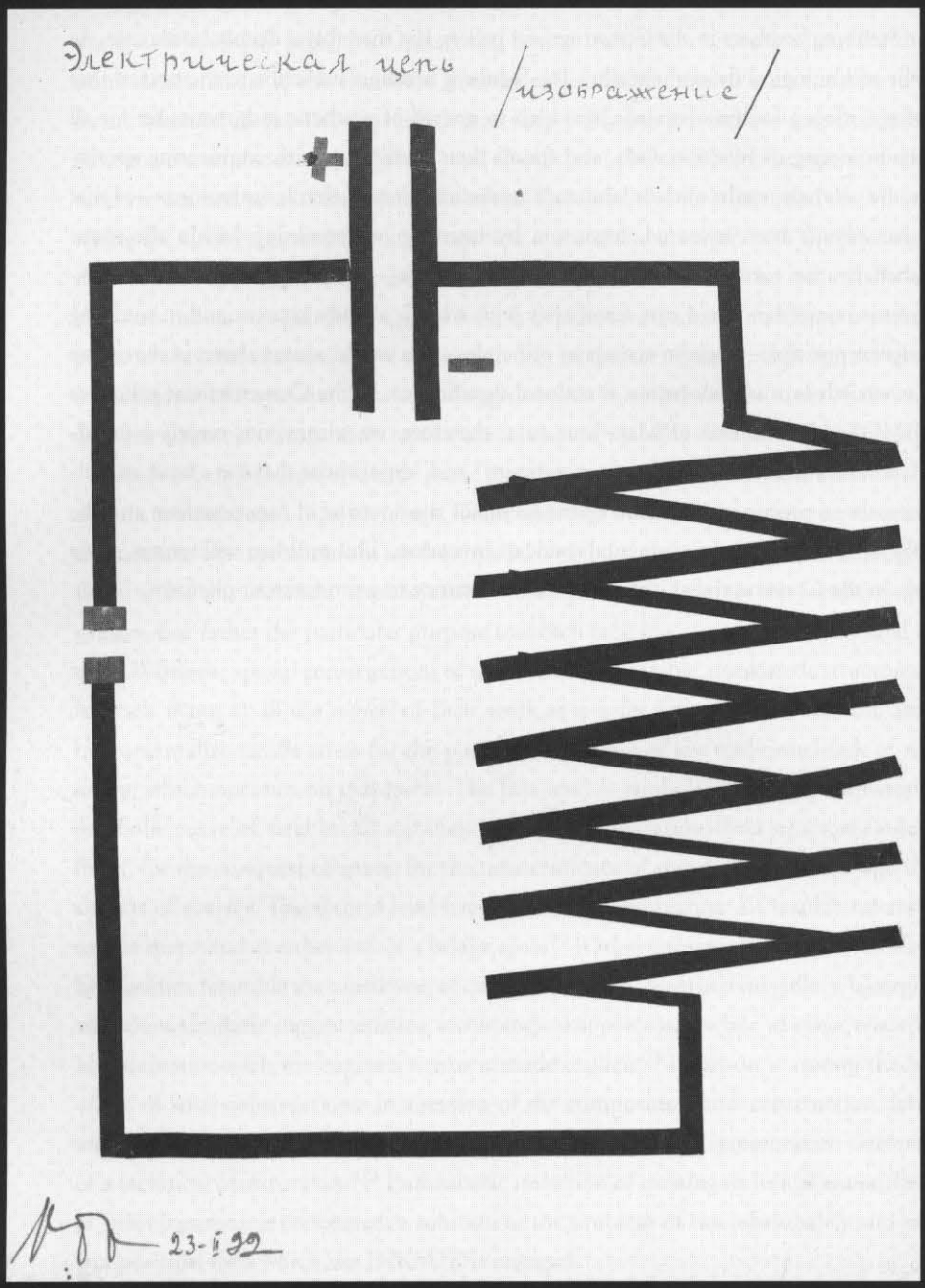
The towering construction *XX* in the center of the gallery is by Vladimir Stenberg (figs. 41, 42, 64), while adjacent to the midpoint of the long south wall is his small construction *XXI* (fig. 42); the work of his brother Georgii occupies the foreground of figure 42: *X, XI, XII, XIII,* and *XIV.* While the Stenberg brothers (who often work collaboratively) and Ioganson seem to be closely aligned in terms of their ostensible interests, when we compare their respective contributions to the gallery, it becomes clear that they are, in fact, the fur-

thest apart of all the group's members. Each has taken on board at least some of the engineer's new materials (steel, iron, glass) and has, as well, taken his enthusiasm for the engineer's structural art to the classroom in order to familiarize himself with the new structural forms invented in the late nineteenth and early twentieth centuries—suspension bridges, radio towers, airplanes, and dirigibles—all of which are powerful demonstrations of the structural virtues and possibilities of tensile stress. The Stenbergs have attended the Moscow Institute for Civil Engineering, while Ioganson has become involved with the training workshops of the Moscow District Military Engineering Directorate. The main focus of both civil and military engineering at this time is bridge construction, and from a pedagogical point of view this means, above all, instruction in the art of the truss: a lightweight, nonmassed form of horizontal beam. Although ancient in principle, the form of the truss underwent a process of extremely rapid transformation with the advent of iron and steel. [64]

The Stenberg brothers evidently made more exacting use, in a conventional sense, of their time in the classroom than Ioganson. Their drawings indicate a keen interest in calculating engineering-type specifications for their spatial constructions, including the stunning bases.[69] But it is not this technical "sophistication" that chiefly distinguishes the Stenbergs from Ioganson, but rather the particular purpose to which each has put his newly acquired knowledge. While the spatial constructions of the Stenbergs are stable, nonkinetic structures, rigidity itself is not at all the *subject* of their work as it is for Ioganson. Instead, the Stenbergs instrumentalize tensile stress for the purposes of a more or less traditional task of *representation,* which operates on two levels. The first level is symbolic: the dynamic sweep of the parabolic curve of steel in *XX* signifies, within a highly rationalized structure, a desire for flight, for the conquest of space, for the transcendence of material limitations and the constraints of gravity. The second level has to do with resemblance: *XX* frankly resembles the towers that stand at either end of a bridge span.[70] (Other constructions exhibited elsewhere by Vladimir resemble the cantilevers of cranes.[71]) In the Constructivist gallery, Georgii's constructions similarly suggest existing technological apparatuses, while in other related works his fascination with the engineer's truss is made explicit.[72] Ioganson is among the harshest critics of such constructions: in a session of the composition-and-construction debate, he asserts that each of the Stenbergs' spatial works is "merely the representation *[izobrazhenie]* of a technical construction."[73] Enthusiastic imitation of existing technical armatures is not, as far as Ioganson is concerned, a solution to the problem of the relationality and excess of composition with which the INKhUK is engaged.

When Tarabukin ridicules such aestheticizing "imitations of technical and engineering structures" for having no utilitarian function, he is giving voice to one of the fundamental dichotomies underpinning the Constructivists' famous call to production in November 1921: the rejection of aestheticism (or easelism) in the name of functionalism.[74] While the aestheticism of the Stenbergs' technical armatures is unmistakable, Ioganson's cold structures cannot be slotted neatly into the other half of this pervasive dichotomy. Rather, Ioganson's spatial experiment escapes the oppositional terms of Tarabukin's critique: for these cold struc-

tures, no referent can be found, nor any function defined. The polemic between Ioganson and the Stenberg brothers in the Constructivist gallery has therefore a deeply ironic cast. As would-be technological fundamentalists, the Stenberg brothers subscribe to the notion that technology offers a foolproof means by which to get rid of aesthetic judgment. Yet for all their championing of functionalism, and for all their familiarity with engineering specifications, the ultimate results of their labors are aestheticizations—that is, imitations—of that which has *already* been invented. Ioganson, by insisting on remaining within the terms established by the composition-and-construction debate—the struggle against excess—circumvents resemblance and easy familiarity with what is already known, and in so doing invents a new principle—a proto-tensegrity principle—that would come to have, in the course of the twentieth century, enormous functional significance. In the Constructivist gallery at the OBMOKhU exhibition of May–June 1921, therefore, we witness not merely a transitional laboratory phase between "pure experiment" and "experiment that has a basis in reality," but rather a precise instantiation of the failure of the doctrine of functionalism and the triumph, instead, of a noninstrumental mode of invention. This problem will return, as we shall see, in the Constructivists' shift from the laboratory to a productivist platform.



65 Karl Ioganson. *Electrical Circuit (Representation).* 1922. Paper collage, graphite, and pencil on paper. 45.4 × 33.6 cm. Costakis collection, inv. no. 197.80. The State Museum of Contemporary Art, Thessaloniki. Photograph courtesy of Aliki Kostaki, Athens.

3
Formulating Production

When they invented the radio, they did not exactly know then how they would use it.

KARL IOGANSON, at a meeting of the Constructivists (1921)

The public was not waiting for the radio, but rather the radio was waiting for the public.

BERTOLT BRECHT, "Radio as a Communication Apparatus" (1932)

DECLARATION AND DILEMMA

If, during the course of the first year of the Moscow INKhUK's existence, its vanguard transformed itself into a highly differentiated group of laboratory Constructivists, its second year (1921–22) is driven by the desire, on the part of those very same Constructivists, to refashion themselves into productivists or production workers *(proizvodstvenniki)*. But just as delimiting the concept of construction proved extraordinarily elusive, so, too, does the process of defining the new art of production *(proizvodstvennoe iskusstvo)* and, most crucially, the specificity of the Constructivist's contribution to its theory and practice. How, precisely, would the Constructivist become a productivist? In what capacity would he or she function within the industrial environment? This chapter addresses the INKhUK's theorization of this problem between November 1921 and March 1922.

In retrospect, the now-famous en masse declaration made by some twenty-five members of the INKhUK on November 24, 1921, appears as the definitive, watershed event in the Constructivists' shift to a productivist platform: "On that day," according to a summary of the INKhUK's activities published in *Russkoe iskusstvo* (Russian art) in 1923, "[Osip] Brik gave a paper in which he proposed to the artists who had already withdrawn from easelism that they set about real, practical work in production. All aspects of this new position were . . .

adopted by the INKhUK. Twenty-five leading masters *[masterov]* of the Left art, under the pressure of the revolutionary conditions of the present, rejected 'pure' forms of art, acknowledging self-sufficient easelism as obsolete *[izzhitym]* and their own activity as merely that of painters—that is, as without purpose *[bestsel'noi]*. The new artist hoisted his productivist flag."[1]

This collective declaration of the INKhUK's new direction is made during the discussion period following Brik's paper.[2] In his audience are the Constructivists Karl Ioganson, Konstantin Medunetskii, and Georgii and Vladimir Stenberg. Also present are the artists Aleksei Babichev, Anton Lavinskii, and Liubov' Popova, the architects A. Efimov, Vladimir Krinskii, Nikolai Ladovskii, and Aleksandr Vesnin, the theoreticians Nikolai Tarabukin and Lev Il'in, and two unnamed others.[3] (Aleksandr Rodchenko, Varvara Stepanova, and Aleksei Gan are apparently absent.) Thus, including Brik, sixteen INKhUK members are immediately party to the declaration—nine short of the twenty-five alluded to in the 1923 report and reiterated by Tarabukin in *From Easel to Machine*,[4] which suggests that further signatures were added at some later date.

The INKhUK's formal adoption of a productivist platform in November 1921 is no bolt from the blue, but rather represents a major intersection of the two critical tendencies then already shaping its theoretical and practical endeavors: first, an exhaustive interrogation of easelism and subsequent reorientation to laboratory work—a process begun the previous year, as we have seen—and, second, "the formulation of an ideology of production art."[5] While the first tendency is chiefly the domain of the INKhUK's practitioners, the second is the self-appointed task of Tarabukin, along with three newcomers to the INKhUK in fall 1921: the theoreticians Brik, Boris Kushner, and Boris Arvatov.[6]

The November declaration formalizes an alliance between the INKhUK's practitioners and its new theoreticians in their mutual commitment to production, with the latter being generally—but not exclusively—understood in terms of the mass production of expeditiously designed utilitarian objects for the amelioration of everyday life. However uneasy this alliance may turn out to be at times—and certainly the stenographic records of the INKhUK's meetings between 1922 and 1924 reveal ample evidence of the competing claims of its *teoretiki* and *praktiki* over how best to resolve the problem of the art of the future[7]—the alliance nonetheless helps to counter the assumption that the INKhUK's rejection of easelism is imposed from above, as it were, by the newcomer Brik. Rather, as the 1923 article reports, Brik makes this proposal for the INKhUK's shift to "real, practical work in production" before an audience of "artists who had *already* withdrawn from easelism."

Furthermore, as Selim Khan-Magomedov points out, the substance of Brik's paper concerns the potential desirability of the INKhUK's transfer from the jurisdiction of Narkompros to that of the organ then responsible for the reconstruction of Soviet industry, the Supreme Soviet of National Economy (Vysshii sovet narodnogo khoziaistva; VSNKh or Vesenkha).[8] Under Vesenkha's authority at this time are some thirty or so institutes devoted

to industrial research, all established after October 1917.[9] Brik proposes that the INKhUK join their number and thereby secure for itself an explicitly industrial rather than "artistic" public profile. Given the INKhUK's majority commitment to the productivist platform, now is the "opportune time," Brik argues, in which "to decide upon the issue of the INKhUK's transfer to Vesenkha."[10]

In addition to securing an industrial profile, Brik's proposed transfer would help to resolve the urgent issue of the INKhUK's future funding, which, by fall 1921, is somewhat uncertain. In a reshuffling of the new state's cultural bureaucracy, IZO Narkompros is to be liquidated and its responsibilities redistributed to other government agencies. Rumors that the INKhUK will soon be brought under the jurisdiction of the Russian Academy of Artistic Sciences (Rossiiskaia akademiia khudozhestvennykh nauk; RAKhN) has created considerable anxiety among its members; it is precisely what Brik and those who ratify his proposal seek to avoid, fearing that RAKhN's traditional disciplinary demarcations would prevent the INKhUK's radical Left—its Constructivists and productivist theoreticians—from finding support there for its activities. (As it will turn out, the INKhUK will indeed be brought under RAKhN's administrative structure in the new year. While, as Christina Lodder suggests, "the INKhUK [nevertheless] continued to function more or less as an independent body until 1924,"[11] the records of its meetings between 1922 and 1924 reveal that it would be under constant pressure from the academy to "justify its existence."[12])

Having adopted a productivist platform, the INKhUK then faces the question: How, precisely, will the Constructivists engage in production? From the start, it is clear that the applied arts—the traditionally sanctioned bridge between the realms of art and industry—offer no solution. The Sub-Department of Artistic Industry (Podotdel khudozhestvennoi promyshlennosti)—a separate body within Narkompros charged with overseeing the applied arts—is in fact the INKhUK's chief institutional rival in the race to enter production. Tarabukin observes that the sub-department's approach to the problem, as theorized by its director, Ivan Averintsev, and his colleague Nikolai Bartram, could apply only to the limited realm of artisanal manufacture *(kustarnaia promyshlennost')*, and even then only in an extremely "backward" fashion. From the INKhUK's point of view, the main problem with the model of the applied artist is that the latter's industrial work is not a "constitutive and essential part of the production process," but merely its afterthought.[13]

That the INKhUK will have nothing to do with so-called artistic industry is certain. But what, then, will the Constructivists do? What role will they play? That of prototype designers, design technicians, production engineers, or rank-and-file factory workers? Or should the Constructivists become agitators and activists among management and workers for, say, the introduction of Constructivist principles into the engineer's office or on the shop floor? Or should they simply be the propagandizers of issues in which the Constructivist endeavor is imbricated, such as the abolition of the division of labor? The effort to reformulate the Constructivists as productivists dominates the INKhUK's activities over the winter of 1921–22.

In a lecture to the INKhUK on December 22, 1921, Stepanova elaborates a detailed theory of Constructivism, but the ensuing discussion among members of her audience barely touches upon the substance of her paper.[14] Instead, it rages around the "tragic problem," as V. Khrakovskii puts it, of "how today's artist justifies his existence" once he has abandoned easelism but lacks the technical expertise requisite for any successful intervention in the industrial arena. For Arvatov, the answer is straightforward:

> Artists should become political activists, and young people are going to have to go to the polytechnic *[politekhnikum]*. . . . Since [artists are] of no use to industry now and can't be engineers, since they've gotten themselves into such a position, [and] since the end of culture is upon us, they'll have to acknowledge their own purposelessness and uselessness. . . . The question now is what artists are to do. In practice, working methods do have to be devised, but artists should not even think of educating and training young people, they should go to technical colleges instead.

One of the "young people" in the audience—one of the Stenberg brothers—interjects half-facetiously, half-seriously: "What are artists to do? They don't need to go to a polytechnic school. They're good for nothing, they should be dealt with the way the Cheka deals with counterrevolutionaries." But Arvatov insists on his point of view, "I think the only way out is to enroll in a polytechnic institute. I think if I can be useful anywhere, it will be there."[15]

Stepanova rejects Arvatov's assertion that the posteaselist artist has but two choices, activism or retraining. On the contrary, she argues, the artist will be able to enter industrial production once

> experimentation outside of life, for the sake of some sort of theoretical principles, theoretical objectives with their basis in aesthetics, [has given] way to experimentation in search of a practical goal for the artist, who has objective knowledge of external form. At the moment the artist's task hasn't reached the point where he should be a political activist, but what he can do is clear. At this point he can go into industry, provided he approaches [i.e., considers questions of] tectonics.

To this, Arvatov quickly retorts: "Provided he knows anything about industrial techniques."[16] On this last issue, Stepanova is steadfast:

> We'll have to agree to differ on the question of the artist's knowledge. You're afraid that he doesn't know enough . . . [thus] his obligation to go to the polytechnic. I don't agree. No technician *[tekhnik]* has yet produced anything so close to the ideal that it's exactly the thing he had in mind. The ideal technician is too far in the future. We haven't reached that period yet. This is far too idealistic. What we're doing at this point is forgetting that our task is to find ourselves a place in real life . . . and not get distracted. From this point of view, the artist can go into industry. There is a definite place for him.[17]

But by March 1922, with the problem still completely unresolved, Stepanova is beginning to weary of the difficult task she and her fellow Constructivists have set for themselves. Despite her earlier public vote of confidence for the potential industrial efficacy of the technically untrained but nevertheless tectonically prepared Constructivist, Stepanova privately voices her frustration in a diary entry of March 10, 1922: "It is not such an easy matter to conduct agitation for Constructivism, and it is even more difficult to reject art and to begin to work in production."[18] On this front, however, her new colleague Kushner is brimming with confidence. During the same month, Kushner delivers four papers at the INKhUK in as many weeks, the third and fourth of which are devoted to defining the role of the engineer and artist, respectively, in production. Unlike Khrakovskii, Kushner has no time to lament the Constructivist's tragic position vis-à-vis production. In the third paper (presented on March 30), a version of which appears the following year in the journal *Lef* under a new title, "The Organizers of Production" ("Organizatory proizvodstva"),[19] Kushner presents a taxonomy of engineers in contemporary industry: First, there are the "shop engineers" *(tsekhovye inzhenery)* out on the factory floor; second, the "calculation engineers" *(raschetnye inzhenery)* and "engineer-constructors" *(inzhenery-konstruktory),* who are found in the factory's technical office; and, finally, the "engineer-organizers" *(inzhenery-organizatory),* who are responsible for the organization of production itself.[20]

Each category of engineer is presented by Kushner as emergent and historical (and thus neither essential nor immutable). His objective in introducing this taxonomy is to open up a space for the contemporary artist in industrial production:

> Artists must enter into production. We have been propagandizing this idea, which is now being widely popularized, for more than two years already. And even to this day, artists, even the most dialectically sophisticated and Marxist, are asking in bewilderment:
>
> > "But how do we enter production and what will we do once we're there? You know that there, there are engineers who, concerning matters of production, know everything and know how to do everything, who organize and direct the whole business from start to finish. What can we add to the universal and all-encompassing know-how and knowledge of the engineers? Must we also go to the relevant institutions and ourselves become engineers? But you know, then we would cease to be artists."
>
> These are false problems. This is a fetishism of engineering.[21]

For Kushner, those of his colleagues who are lost in the supposed tragedy of the Constructivist's posteaselist position are lost because they idealize or glorify the notion of the engineer. In this idealization, they fail to grasp the serious shortcomings of existing engineer-constructors—the second in his taxonomy and the category most relevant to Constructivism, from Kushner's point of view—and thus also fail to grasp that they have potentially much to contribute:

Worst of all is the state of affairs with the engineer-constructors. And this fact has decisive import for our fundamental problem of the artist's entrance into production. The engineer-constructors are the inventors of objects, the organizers of materials, the workers of form. The domain of their activity is in principle the same as that of representational artists *[khudozhnikov-izobrazitelei]*. For the task of shaping objects, the engineer-constructors have not established any science, nor even any kind of empirical system, such as, for example, the technology or study of the strength of materials. Practical experience and tradition are their sole resources; resourcefulness and inventiveness are their only [working] methods. These are the very same resources and methods that are used by artists in their work. The difference is that in the case of artists, their practical experience and tradition is broader, more variously informed and qualified. . . . Thus artists could already now, with great success, replace the engineer-constructors. Of course, in order to do so, they would need, as a preliminary, to master those auxiliary knowledges essential to productive constructing *[konstruirovaniia]*. In other words, they must become engineer-artists *[inzhenerami-khudozhnikami]*.[22]

Kushner proposes, in short, that the vanguard artist take the place of the engineer-constructor in production.[23] He thus reformulates the INKhUK Constructivist as the new blood that will reinvigorate the new state's stagnating engineering cadre.

Thus far, I have delineated three different formulations of the Constructivist's potential role in production proposed by INKhUK members during winter 1922: the Constructivist as an activist or a student in the polytechnic (Arvatov); the Constructivist as a technically untrained but nevertheless tectonically informed artist (Stepanova); and, third, the Constructivist as a member of a new breed of engineer-artists dedicated to the reinvigoration of Soviet industrial engineering (Kushner). I will turn now to a fourth theorization of the problem—that of the Constructivist as inventor.

THE CONSTRUCTIVIST AS INVENTOR

In a letter written to his family in early 1922, Ioganson claims at least partial responsibility for the advent of the Constructivists' productivist shift. Expressing his bereavement upon the news of his father's death on January 24, 1922, he enthusiastically identifies his new convictions as a Constructivist with his father's long-standing ambivalence toward his son's chosen career as a fine artist. Ioganson reminisces that his father, a successful master builder,

would have been content *to be a master craftsman and useful artisan for himself and for others.* He understood what an "artist" is—a person of neither value nor importance, somebody who fools everyone, a parasite; the artist is superfluous. I only began to comprehend this in 1918 in Moscow; I believe that in the present context this is utterly true, [and] I have demonstrated it to myself and am starting to demonstrate it to my fellow Muscovite artist-colleagues. Certainly there have been struggles and unpleasantries, but now, however, I am no longer alone in this

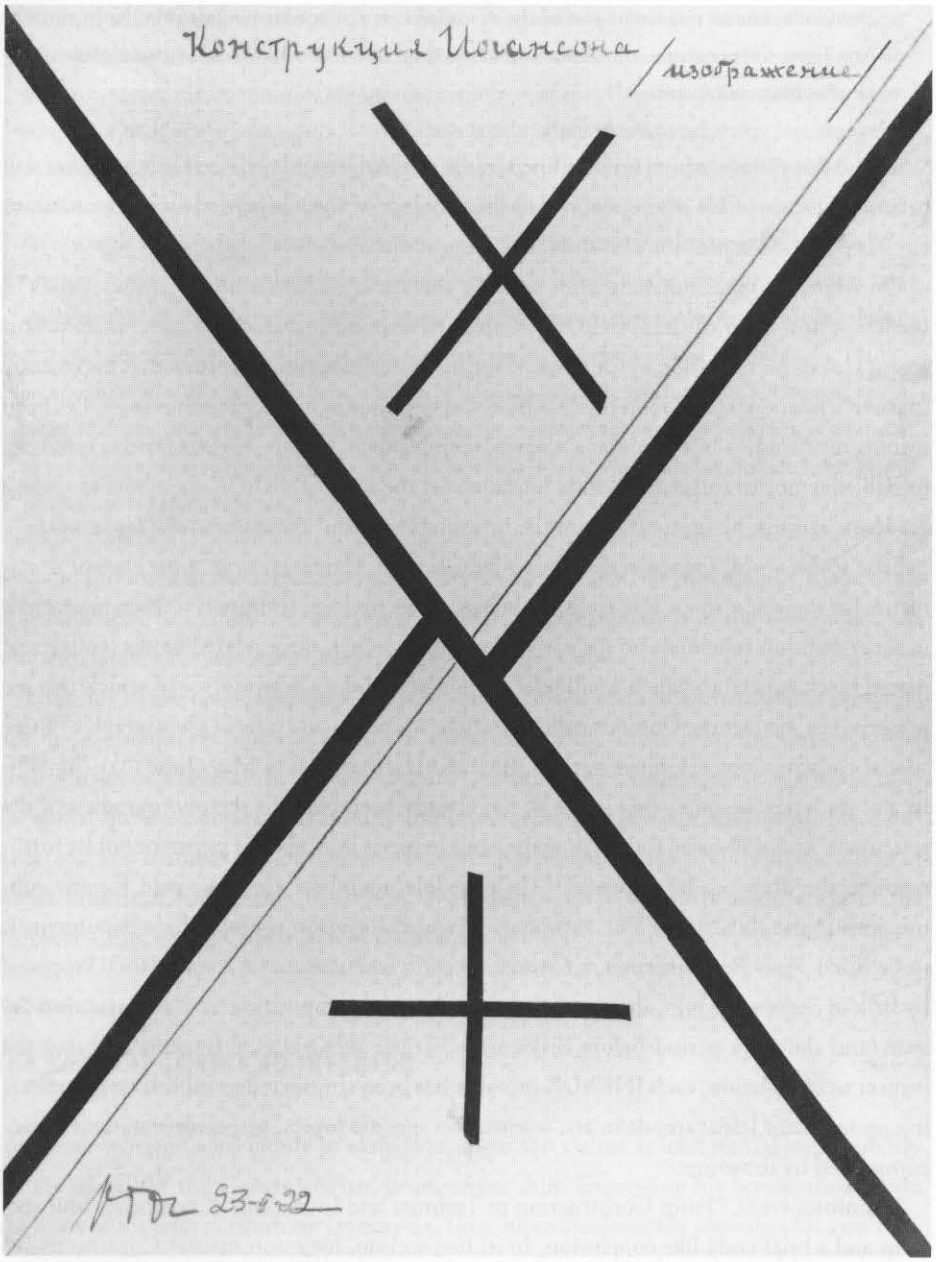
point of view, but an important part of the so-called Left artists who are united in the Institute of Art. These former artists, the *Constructivists,* as they are so incorrectly called, *reject art in the name of technics and invention.*[24]

With this last phrase, which is underlined in the original letter, Ioganson broaches what will become the core of his intervention into the problem of the Constructivist—or, rather, to cite his preferred expression, *konstruktor*[25]—in production.

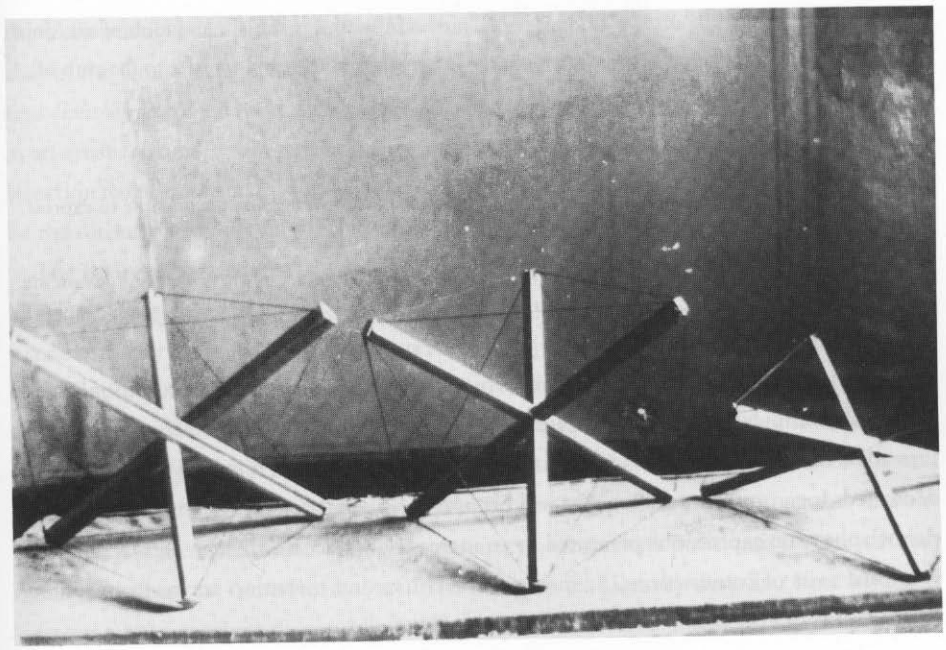
On March 1, 1922, not long after sending this letter to his family, Ioganson writes to Babichev, now chair of the INKhUK, in order to respond to Babichev's concern about his recent lack of participation in the work of the institute.[26] Ioganson explains that his recently "passive" *(passivnyi)* relation to the INKhUK has been due to financial problems—"I've been earning my bread"—but promises a renewed commitment. Closing his letter with a reminder to Babichev not to forget to include his name on the list of INKhUK members to receive academic rations, he signs off, "from the inventor Ioganson" *(ot izobretatelia Iogansona).*

True to his word, Ioganson delivers to Babichev on March 25, 1922, a package of documents for inclusion in an INKhUK anthology. This package comprises a three-page *kredo* (a short position statement on his convictions as an artist), three related works (collages of pasted black papers, to which I will refer, as the artist did, as drawings)—of which two are preserved in the George Costakis collection (figs. 65, 66)—and a sepia photograph of three spatial constructions exhibited in the OBMOKhU exhibition in May–June 1921 (fig. 67). In a cover letter, he notes that while he has already been paid for the photograph and the statement, he is still owed for the drawings and requests that, should payment not be forthcoming, the drawings be returned.[27] (In principle, members are to be paid for any submissions to the INKhUK.) The anthology to which Ioganson submits these documents is to be titled *From Representation to Construction (Ot izobrazheniia k konstruktsii).* Proposed by Brik in September 1921, its genesis traces back to the composition-and-construction debate (and thus to a period before Brik's arrival at the INKhUK).[28] In order to bring the project to completion, each INKhUK member has been contracted to submit essays reflecting upon recent leftist trends in art, research on specific topics, or position statements accompanied by drawings.

Ioganson's *kredo,* "From Construction to Technics and Invention,"[29] comprises four sections and a brief coda-like conclusion. In its first section, Ioganson situates Constructivism in good company, arguing that materialism, leftism, and Constructivism have, respectively, examined, unmasked, and repudiated the "trickery" *(fokus)* of the fine arts, and of art in general.[30] Art is a lie, a narcotic, an unnecessary thing; it is a childish game with lines, pigments, words, and sounds; the artist is a savage, a juggler with a brush, a deceiver, a parasite, and a forger. Having recited this list of pejoratives, he then rehearses a few slogans from the program of the Working Group of Constructivists: "the unacceptability of the artistic culture of the past"; "uncompromising war on art in general"; and "the Communist expression of material structures."[31]



66 Karl Ioganson. *Construction by Ioganson (Representation).* 1922. Paper collage, graphite, and colored pencil on paper. 45.5 × 33.7 cm. Costakis collection, inv. no. 196.80. The State Museum of Contemporary Art, Thessaloniki. Photograph courtesy of Aliki Kostaki, Athens.



67 Karl Ioganson. *Spatial Constructions.* 1920–21. Wood, metal, and wire. Dimensions unknown. No longer extant. Photograph courtesy of Viacheslav Koleichuk, Moscow.

In his *kredo*'s second section, Ioganson asserts that two kinds of Constructivism exist: the first is "artistic," and thus "harmful" *(vrednyi)*, while the second is "real 'structural-technical'" *(podlinnyi "stroitel'no-tekhnicheskii")* construction, which is dedicated to the realization of a specific practical goal and purpose, and is therefore "useful" *(poleznyi)*. Such useful construction is intended "not for itself, nor for art's sake, but for its practical transfer to the domain of *practical necessity.*" The third section presents his claim for territory within this differentiated field of Constructivism. Ioganson criticizes those who, having taken up construction or moved "into production," nevertheless continue to use the devices, methods, and tools of the "old art." "The product of such arbitrary working of materials, as this is deftly practiced by TATLINISM and the latest Suprematism," he asserts, "is simply the representation of something; it is false and harmful construction—i.e., 'sweet old art' or a plaything." To this invalidated mode of construction, Ioganson counterposes his own aphoristic definition of the principle of construction: "The construction of any cold structure in space or of any combination of hard materials is a right-angled or acute- and obtuse-angled cross."

So far, therefore, not a lot that is new. It is not until the fourth section, in fact, that the *kredo* breaks new ground. Here Ioganson launches for the first time an appeal to technics and invention as the newly appropriate domain of the Constructivist:

It is now time to totally disown all the devices, methods, means, materials, and tools of art, since they are worthless, imperfect, inadequate in the extreme, primitive, and transfer to the path of technics and invention.

Down with art, long live technics!

Because of the development of technics, art as a means of knowledge (if it is possible to express it thus) is withering away and technics and invention are getting the upper hand. . . .

When I launched the slogan "Down with art, long live technics," by this I was not advancing technics as the goal of the Constructivists' aspirations in place of art, which had been rejected.

With this last disclaimer, Ioganson distances his pursuit of technics from the commonly made charge of "technical fetishism" *(tekhnicheskii fetishizm)* or "technicism" *(tekhnitsizm)*.[32] But instead of then proposing utilitarianism *(utilitarnost')* as the "end" to which technics is to be dedicated, Ioganson introduces what will become his pivotal concept of invention. In a series of aphoristic expressions presented in an increasingly staccato rhythm and lacking conventional sorts of conjunctions, he insists that technics and invention are far from synonymous realms of endeavor:

Technics, such as we find it at the present time, without invention, is a stagnant bog *[stoiachee boloto]*.

Technics is the application of laws and rules and the deployment of already known inventions.

Technics is condemned to stasis and lack of progress.

That which is technics is that which invention was not.

The technical specialist *[tekhnik-spets]* lives at the expense of the inventor.

The relationship of technics and invention is thus construed by Ioganson as somewhat analogous to that of the applied to the speculative. Technics represents accumulation, repetition, routine, stagnation, whereas invention and innovation constitute the Constructivist's path forward. The technical specialist is merely the executor of progress, while the inventor its significant legislator.

Overall, Ioganson seems to suggest that the Constructivist need neither aspire to the position of the technical specialist nor lament the manifest poverty of his or her own technical expertise, for the key to the Constructivist's role in production lies not in the acquisition of received knowledge, but in the reinvigoration of such knowledge through a continual process of reinvention in the hands of the Constructivist. By recourse to the notion of invention, Ioganson thus hopes to circumvent the supposed tragedy of the fine artist's lack of technical expertise. (Support for this interpretation of his *kredo* is found in the program of the Constructivist group's "productivist division," which, according to Khan-Magomedov, comprises Ioganson and Rodchenko. This program—not to be confused with that drafted by Gan—declares that in setting themselves the "task" of working on engineering structures,

the Constructivists in production will be the "clean(s)ers" *(chistil'shchiki)* of engineering—that is, the Constructivists will cleanse engineering of all "aesthetics, dilettantism, [and] excess *[izlishestva]*."[33]) The closing, single-sentence coda to Ioganson's *kredo* sums up his life as an artist to date: "From painting to sculpture, from sculpture to construction, from construction to technics and invention, such [has been] my path and such is and will undoubtedly be the ultimate goal of every revolutionary artist."

The figure of the artist as inventor has a long history—several references to Leonardo da Vinci appear in Ioganson's early sketchbooks and notebooks[34]—but most recently it played a central role in the polemics of the pre-revolutionary Russian avant-garde. Against the Symbolists' valorization of expression and contemplation, the Russian futurists championed invention. The poet Velimir Khlebnikov, for example, called for a "vanguard of inventors *[izobretatelei]*" in 1916 and proposed a binary division of the universe into inventors and consumers: "Let the Milky Way be divided into the Milky Way of the inventors and the Milky Way of the consumers."[35] But the extremity of Ioganson's position is unprecedented: In a 1922 lecture on "new Russian art," for example, El Lissitzky describes how Ioganson "went as far as a compete disavowal of art" and in his "urge to be [an] inventor, devoted [his] energies to pure technology."[36]

Ioganson's reformulation of the posteaselist Constructivist as an inventor has further significance. The key here is the assertion made at the conclusion of his *kredo*'s fourth section—that the "technical specialist lives at the expense of the inventor." It seems plausible to read this assertion within the context of the controversy then raging in the Russian Communist Party over the role of the technical intelligentsia in the industrial arena.[37] Some factions within the party at this time, including Lenin's, believe that the knowledge and expertise of the *spetsy* (bourgeois specialists—that is, members of the non-Communist intelligentsia) are vital to the Bolsheviks' successful reconstruction of the Russian republic's industrial infrastructure after its near-total decimation during the First World War, February and October Revolutions, Civil War, and Western Blockade. Other factions argue that posting *spetsy* to Soviet factories exposes the process of industrial reconstruction—perceived as essential to securing the revolution—to the risk of economic sabotage because the *spetsy* are fundamentally untrustworthy due to their alien class origins and to the fact that they received their training and thus ideological formation under the tsarist regime. Furthermore, the majority of the party's working-class membership protests Lenin's policy on the *spetsy* as a legitimation of the return of a supposedly forever-banished source of worker exploitation. According to Sheila Fitzpatrick, the height of party opposition to the *spetsy* occurs in the winter of 1921–22,[38] precisely the period in which Ioganson proposes his notion of the inventor as a solution to the INKhUK's debate over the Constructivist's role and efficacy within production. Ioganson's reformulation of the Constructivist as an inventor thus not only displaces the problem of the artist's lack of technical knowledge, but also makes of that lack—in the context of escalating attacks on the *spetsy*—a certain virtue.

TWO DRAWINGS AND THE PROBLEM OF SEQUENCE

It is plausible to assume, given their dates, that *two* of the three drawings that Ioganson submits to the collective anthology project are among the four by the artist acquired by Costakis from Natal'ia Babicheva as part of the portfolio of twenty-seven works on paper produced by INKhUK members. As discussed in chapter 1, two of the four (plates 7, 8) are from the composition-and-construction debate. The third and fourth are *Construction by Ioganson (Representation)* (fig. 65) and *Electrical Circuit (Representation)* (fig. 66). Each drawing is signed on the recto with the abbreviated form of Ioganson's surname, "IOG," which he often used in Russia, and each is dated "23-ii 22" (February 23, 1922). With minor variation, the same information is repeated on the versos. The third drawing of the triad—or rather, *one* of its three drawings—is unfortunately lost.

Based on the evidence provided by the two surviving drawings, Ioganson's triad seems to have constituted his first attempt to articulate the INKhUK's productivist shift. While the argument of the triad as a whole has been lost to us, a hypothetical reconstruction of this argument's sequence may nevertheless be attempted. Since each INKhUK member was contracted to submit drawings relating to his or her written theses, it seems fair to assume that Ioganson's triad was most likely framed in the teleological terms of the journey that he delineates in his *kredo*—from construction to the domain of technics and invention. One might speculate, therefore, that each of the three drawings corresponded to one of the three stages of the artist's developmental narrative—that is, the series consisted of a "construction" drawing, a "technics" drawing, and an "invention" drawing. But the conjunction "and" by which Ioganson conjoins "technics" and "invention" in his *kredo* complicates a reading of the triad as a simple progressive sequence. That same "and" also problematizes to some extent the notion of a delimitation of opposed terms. In other words, the relationship of the two surviving sheets, *Construction by Ioganson (Representation)* and *Electrical Circuit (Representation)*, is probably more fluid than that of the artist's paired composition-and-construction demonstration drawings, which strictly observe the task of delimitation in binary terms: rather than demonstrating an opposition between construction and technics or construction and invention, they offer a *reading*—in the sense of a revising—of "construction" by means of "technics" and "invention" (as an instance, perhaps, of what Max Bom describes in another context as "building our roads behind us as we proceed"[39]). It is precisely this kind of fluidity that enables Ioganson to advance invention as the potential role of the Constructivist in production. Why? Because invention is what underpins not only his own spatial constructions, but also the "anonymous" realm of technics.

The inscription that appears along the top of each sheet is instructive in this regard: "*Konstruktsiia logansona /izobrazhenie/*" [Construction by Ioganson (representation)] and "*Elektricheskaia tsep' /izobrazhenie/*" [Electrical circuit (representation)]. In each inscription, a straight slash (the convention for parentheses in Russian manuscript and typescript) merges the textual into the graphic rhythm of the drawn line and collaged papers. The slash and the

slight lowering of the word "representation" *(izobrazhenie)* distinguish two voices within the inscription: direct and indirect utterances. It is a graphic way of underscoring the artist's claims that "this is a *representation* of a construction by Ioganson" and not itself a construction, and "this is a *representation* of an electrical circuit" and not itself, obviously, an electrical circuit. Ioganson thus insists on the persistence of representation whenever a surface is marked (irrespective of whether this marking is figurative or not)—that is, on what Tarabukin describes in another context as the ultimate inevitability *(neizbezhnost')* of representation.[40]

Construction by Ioganson (Representation) is evidently a restatement of Ioganson's principle first elaborated the previous year in the INKhUK debate and in his spatial constructions at the second OBMOKhU exhibition: that the right-angled or oblique- and acute-angled cross (that is, the crossing—although not necessarily the intersecting—of two elements) is the irreducible basis of any construction. *Construction by Ioganson (Representation)* is once again a statement of the sum total of all possible crosses: right-angled (the small cross in the lower field) and acute- and obtuse-angled (the small cross in the upper field). But whereas in *Graphic Representation of a Construction* (plate 8), a right-angled cross governs the division of the sheet (and of the smaller crosses only one is acute- and obtuse-angled), in the 1922 drawing Ioganson has reversed his earlier emphasis. A pencil line drawn from the upper-right corner down to the lower-left corner and a strip of black paper pasted from the upper-left corner to the lower-right corner form a large acute- and obtuse-angled cross that is deduced from the corners, and thus from the dimensions of the sheet itself. This cross produces, in turn, two acute-angled triangular fields (above and below the point of intersection) and two obtuse-angled fields (to its left and right).

Construction by Ioganson (Representation) is not simply about an inversion of emphasis (from right-angled to acute- and obtuse-angled), however. Ioganson has chosen to foreground in this drawing the principle that he developed in his spatial constructions *II* through *IV*: that flush contiguity, rather than intersection, affords the greatest economy of cold structure. (As mentioned earlier, Ioganson accompanies his *kredo* and drawings with a sepia photograph of these three constructions.) This foregrounding is conveyed by two further strips of black paper, which are placed parallel to, but on either side of, the pencil line drawn from upper right to lower left. The *displacement* of these pencil lines from the center of the large cross, and of the sheet itself, produces a dynamic slippage in the field. Translating his basic principle of construction into graphic means, Ioganson produces a drawing that is not only deductive (from the corners of the sheet) but also dynamic (displaced from the center). *Construction by Ioganson (Representation)* thus encapsulates, or becomes a metaphor for, the kind of tectonic shift discussed at length in the meetings of the Working Group of Constructivists—the simultaneously dynamic yet determined character of volcanic eruption.

By means of the recto inscription, Ioganson once again "authorizes" this constructive principle (which he also cites in the *kredo* accompanying his drawings) as *his* invention. By con-

trast, the electrical circuit represented in the other sheet is without attribution, not simply because it belongs to the canon of received technological wisdom, but also because that invention is a collective, and thus in a certain sense anonymous, one.

If Ioganson's triad originally constituted a sequence of representations, each taking up a position along an orderly path "from construction to technics and invention," then we can assume that *Construction by Ioganson (Representation)* would have been the first drawing in the sequence. But which position did *Electrical Circuit (Representation)* occupy? If the relationship of the three drawings to one another was strictly sequential, does the circuit drawing occupy the second or the third place in the sequence? Does it represent Ioganson's rumination about technics—whether of the stagnant variety, such as he describes in the *kredo,* or that of some future arcadia of technological vigor? Or is it a demonstration of the dynamism he attributes to invention?

ELECTRICAL CIRCUIT (REPRESENTATION)

Notwithstanding its rough execution and technical disinterestedness, *Electrical Circuit (Representation)* is a diagram of an identifiable, rudimentary type of electrical circuit. Its material poverty and banal legibility seem to afford its viewer that which Viktor Shklovsky has defined as *antithetical* to the work of art—namely, an "economy of perceptive effort" due to the object's algebrization or overautomatization.[41] Does the drawing represent a refusal of the Russian formalist's argument that the very *failure* to produce immediate recognition in the viewer is an index of the *successfulness* of the enterprise undertaken? Or would such an interpretation too hastily assume that immediate recognition dispenses with the problem of signification? In other words, what meanings are inscribed—but not immediately legible—in this meager work of art?

Electrical Circuit (Representation) refers not just to the contemporary discourse of electrification—itself a network technology—but specifically to the network technology of communications made possible by electricity—that is, wireless telegraphy. The telegraph, a century-old device for the instantaneous communication of signals and messages to the "far off" *(teli),* was transformed in 1895 by its wireless reinvention, so that *teli* is now, in principle, without *telos,* a figure henceforth of boundaryless extension. Ioganson has chosen to diagram a specific *type* of electrical circuit: a spark-gap oscillation circuit for a wireless telegraph or radiotelegraph transmitter.[42] The invention of the spark-gap circuit—a well-known, extensively deployed, and widely published type in Russia and the West (figs. 68, 69)[43]—is most commonly associated with Aleksandr Popov in Russia and Guglielmo Marconi in the West, but by no means exclusively. Wireless telegraphy and its development into the field of radio technology in the first decades of the twentieth century were rather the result of the accumulation of many scientific theories, laboratory experiments, and entrepreneurial endeavors, in several countries on both sides of the Atlantic.[44]

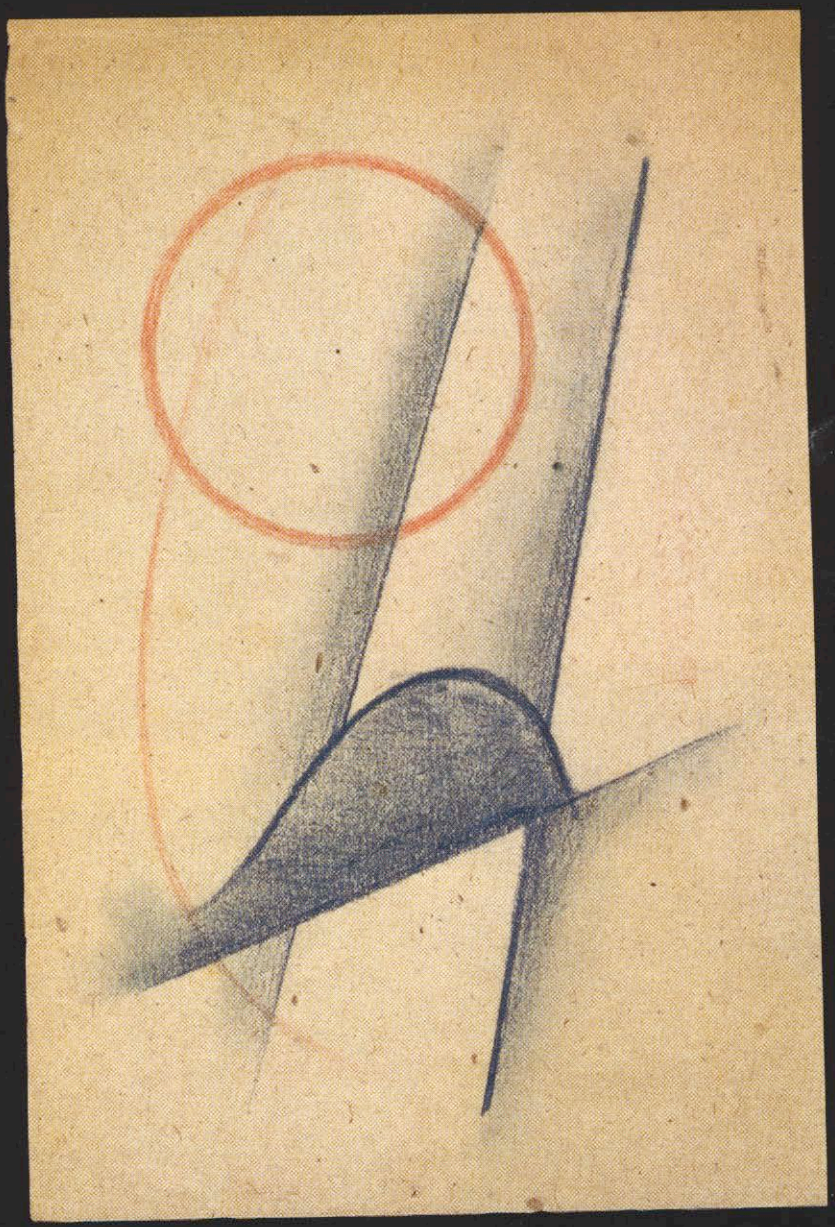


PLATE 1

Vladimir Stenberg. *Composition.* 1920. Colored pencil on paper. 21 × 13.9 cm. INKhUK stamp no. 5. Costakis collection, inv. no. 182.80. The State Museum of Contemporary Art, Thessaloníki. Photograph courtesy of Aliki Kostaki, Athens.

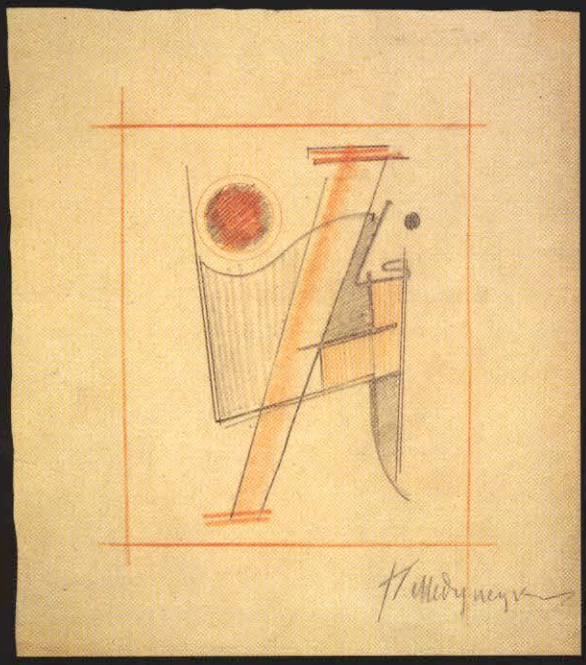


PLATE 2

Konstantin Medunetskii. *Composition.* 1920. Pencil and orange crayon on paper. 26.8 × 23.4 cm. INKhUK stamp no. 26. Costakis collection, inv. no. C179. The State Museum of Contemporary Art, Thessaloniki. Photograph courtesy of Aliki Kostaki, Athens.

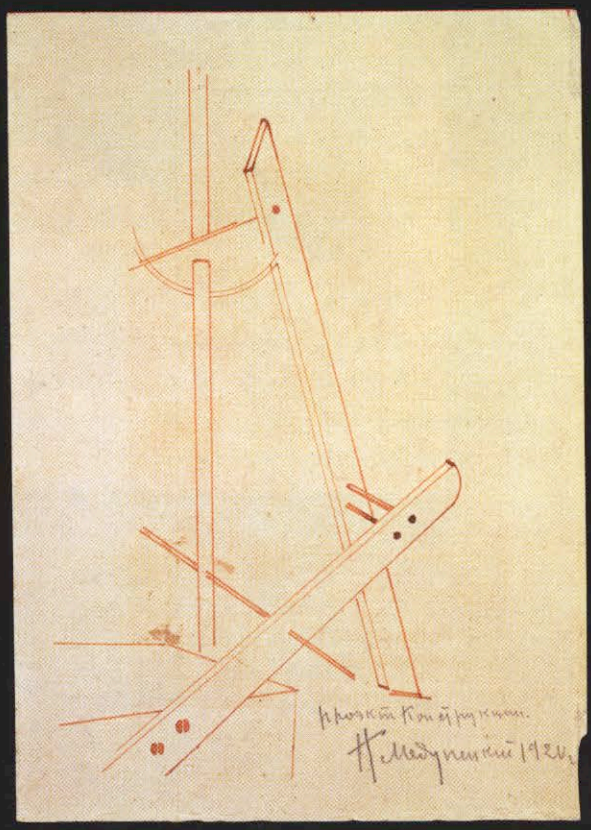


PLATE 3

Konstantin Medunetskii. *Design for a Construction.* 1920. Sepia ink on paper. 27 × 19.1 cm. INKhUK stamp no. 27. Costakis collection, inv. no. C178. The State Museum of Contemporary Art, Thessaloniki. Photograph courtesy of Aliki Kostaki, Athens.

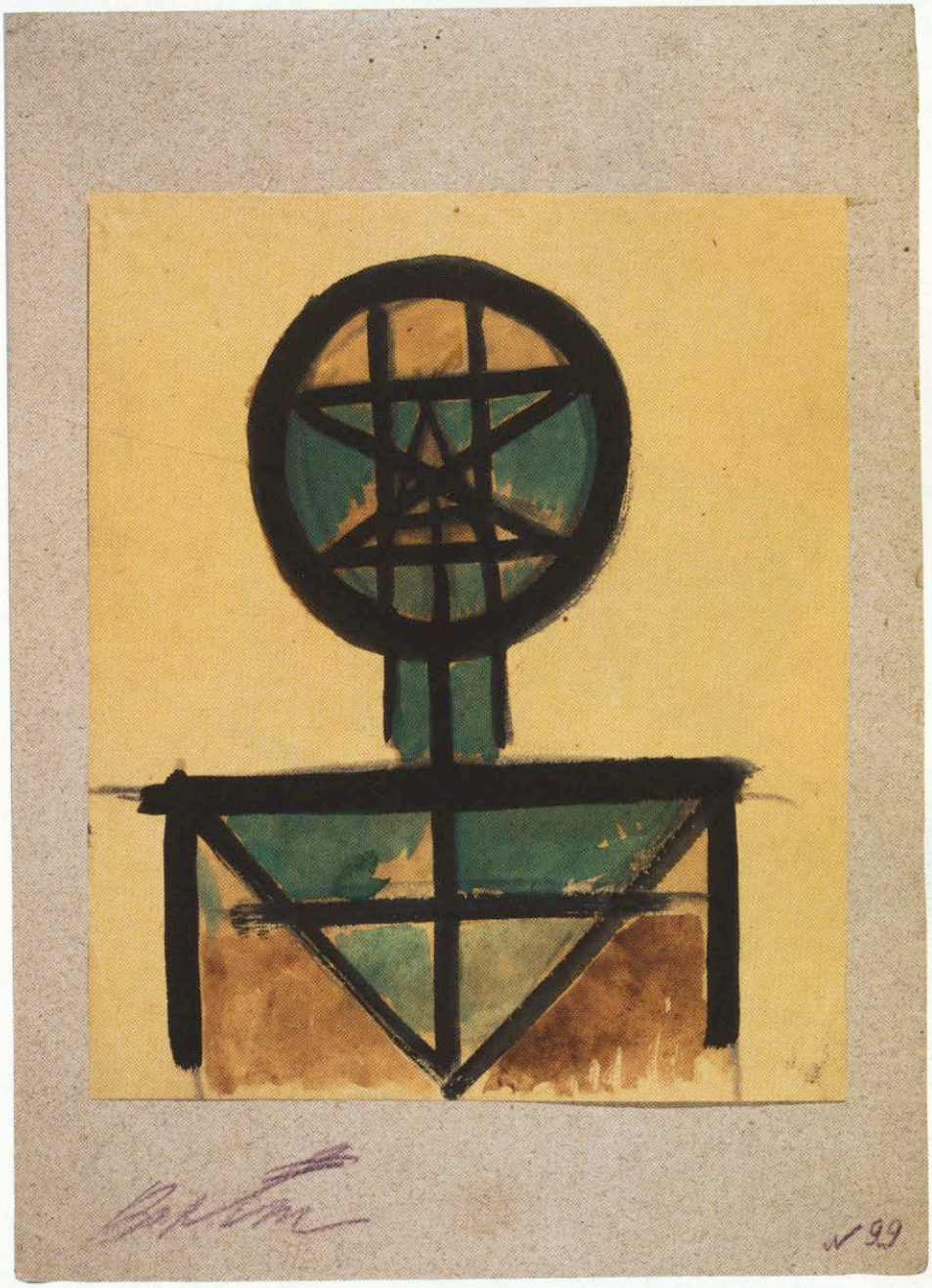


PLATE 4

Varvara Stepanova. *Example of a Composition.* n.d.

Gouache on paper mounted on gray paper. 22.3 × 18.5 cm.

INKhUK stamp no. 15. Costakis collection, inv. no. C172.

The State Museum of Contemporary Art, Thessaloníki.

Photograph courtesy of Aliki Kostaki, Athens.

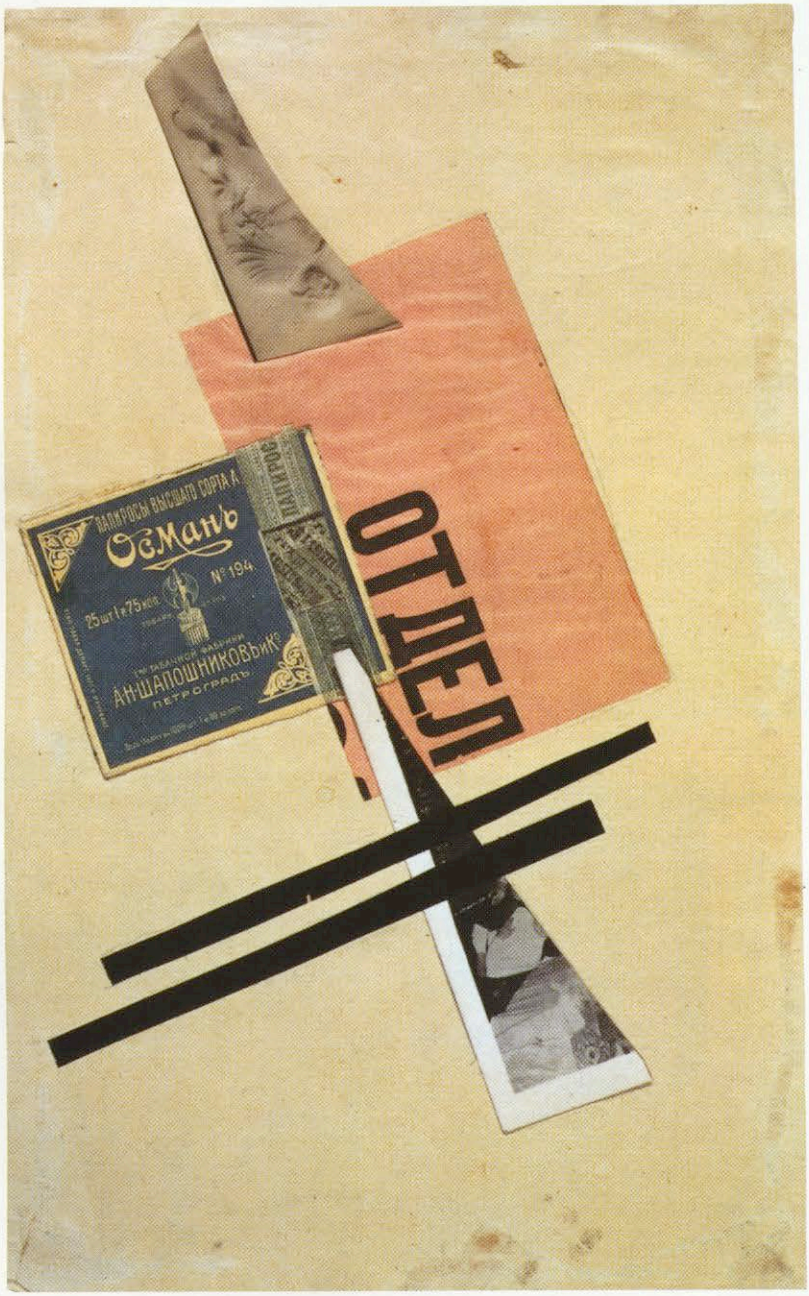


PLATE 5

Varvara Stepanova. *Planar Structure.* n.d. Collaged paper and photographs on paper. 35.9 × 22.9 cm. INKhUK stamp no. 16. Costakis collection, inv. no. C173. The State Museum of Contemporary Art, Thessaloniki. Photograph courtesy of Aliki Kostaki, Athens.

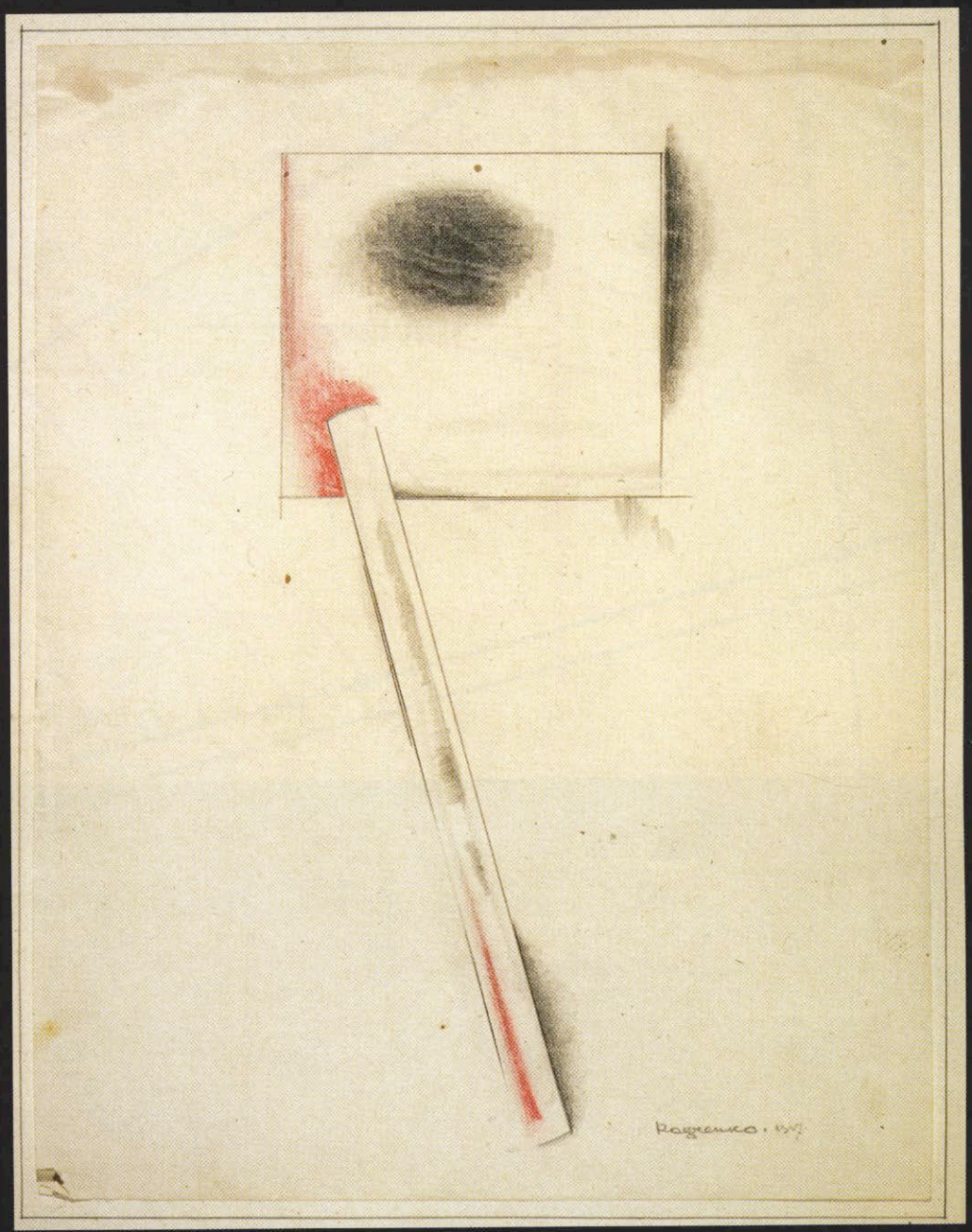


PLATE 6

Aleksandr Rodchenko. *Composition.* 1917. Pencil and crayon on paper mounted on paper. 26.6 × 21.5 cm. INKhUK stamp no. 11. Costakis collection, inv. no. C171. The State Museum of Contemporary Art, Thessaloniki. Photograph courtesy of Aliki Kostaki, Athens.

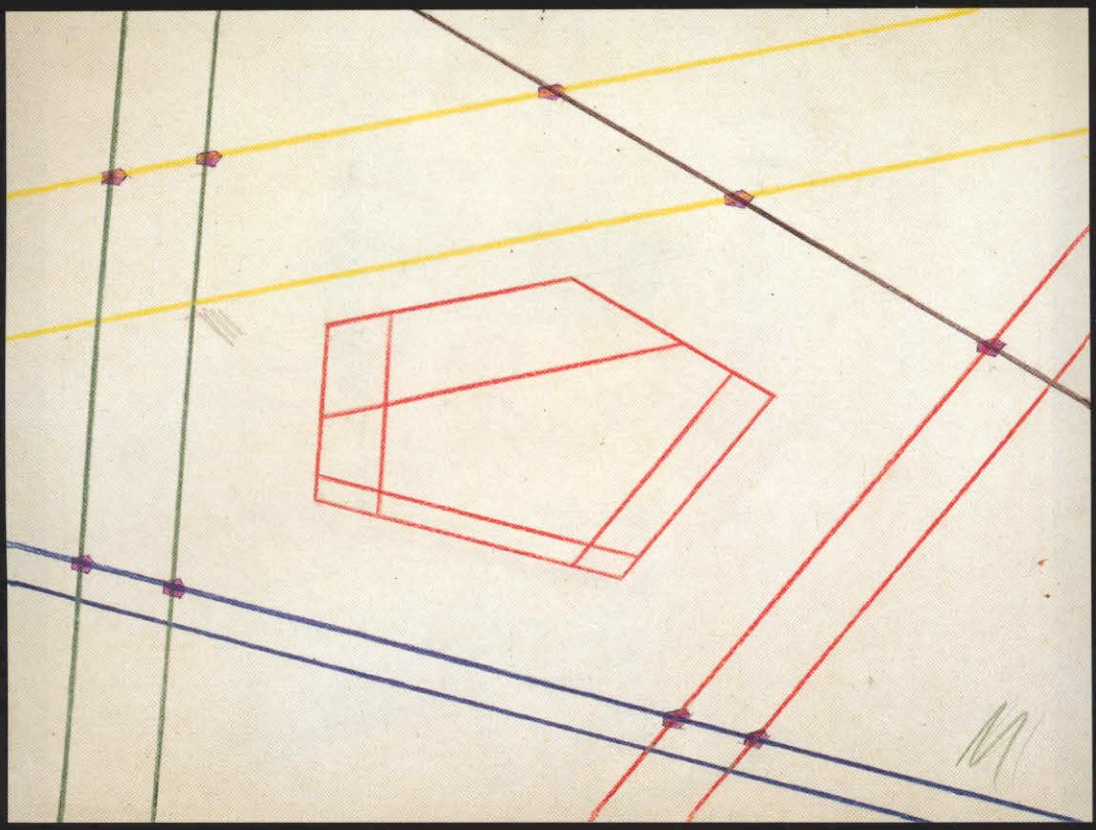


PLATE 7

Karl Ioganson. *Plan of a Composition: Natur-morte.* April 7, 1921. Colored pencil, ink, and pencil on paper. 24.1 × 32.3 cm. INKhUK stamp no. 18. Costakis collection, inv. no. C186. The State Museum of Contemporary Art, Thessaloniki. Photograph courtesy of Aliki Kostaki, Athens.

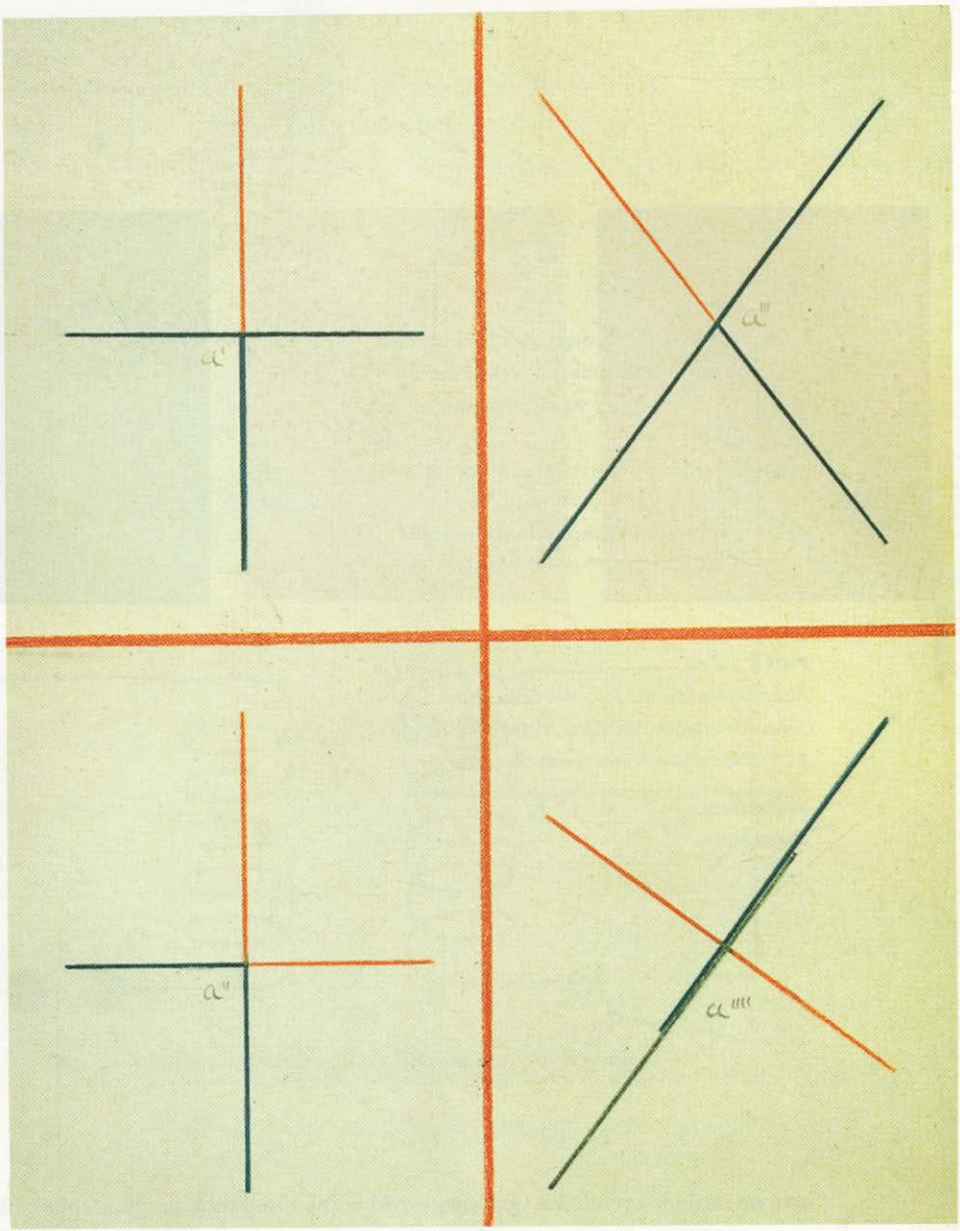


PLATE 8

Karl Ioganson. *Graphic Representation of a Construction.* April 7, 1921. Colored pencil and pencil on paper. 31.8 × 24.3 cm. INKhUK stamp no. 17. Costakis collection, inv. no. C185. The State Museum of Contemporary Art, Thessaloníki. Photograph courtesy of Aliki Kostaki, Athens.

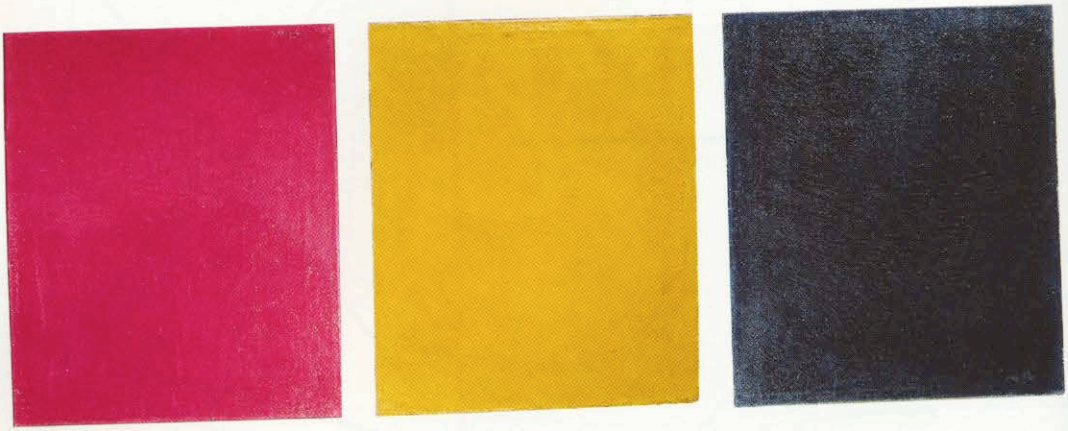


PLATE 9

Aleksandr Rodchenko. *Pure Red Color; Pure Yellow Color; Pure Blue Color.* 1921. Oil on canvas. 62.5 × 52.7 cm each. Private collection, Moscow.

Photograph courtesy of private collection, Moscow.

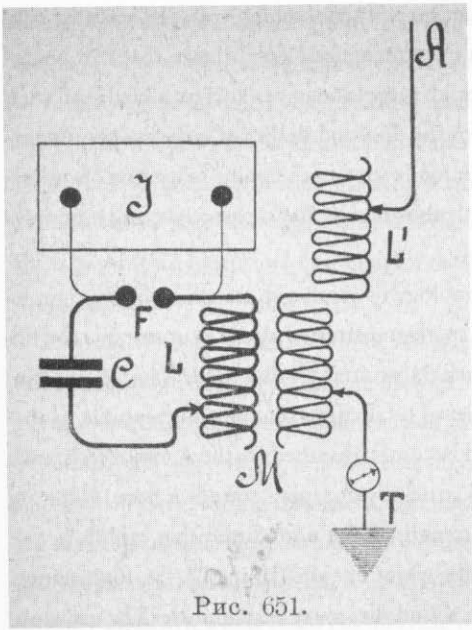


Рис. 651.

68 Diagram of a spark-gap circuit in A.A. Petrovskii, *Electricity and Magnetism* (*Elektrichestvo i magnetizm;* Petrograd, 1917).

69 Diagram of spark-gap circuits in Elmer E. Bucher, *Practical Wireless Telegraphy: A Complete Text Book for Students of Radio Communication* (New York: Wireless Press, 1920).

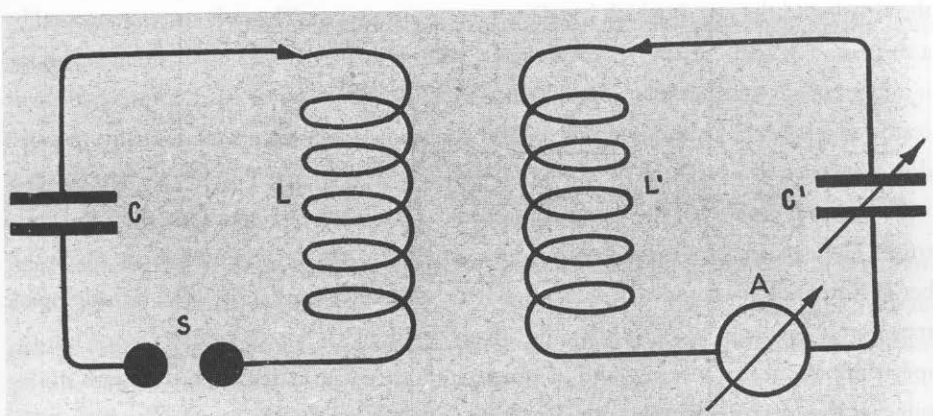


Fig. 96—Circuits for Demonstrating the Phenomenon of Resonance.

Depicted schematically in *Electrical Circuit (Representation)* are the three elements that identify the electrical circuit as a spark-gap type: the jagged concatenation of strips on the right represent the circuit's inductance coil (more typically represented in such diagrams by a set of loops); the two vertical strips labeled with positive and negative signs refer to the circuit's condenser (in an actual circuit of this type, a mathematical formula would configure the relationship between the inductance coil and the condenser, thereby determining the frequency on the radio spectrum at which signals would be transmitted); and the break in the strip on the left side represents the gap between the circuit's electrodes (the spark gap that sends the telegraphic signal).

The spark-gap circuit works when the induction coil sends a high voltage across the gap. When the spark jumps the gap, it creates an electromagnetic disturbance that can be detected at a distance. A series of sparks in rapid succession gives rise to a chain of such disturbances. These can be interrupted to form the dots and dashes of a code—most commonly, Morse.[45] Spark-gap transmitters were initially used in the point-to-point communication of ship-to-ship or ship-to-shore transmissions in merchant, passenger, and especially military contexts.

Despite constant improvements to the technology of spark-gap transmission, two problems cannot be entirely eliminated. First, the spark-transmitted signal is unsuitable for the transmission of the human voice since the spark transmitter sends a radio wave of a particular type: Each spark discharge generates a series of oscillations that diminish rapidly in amplitude as its energy is radiated into space and becomes absorbed by the internal resistance of the components. By way of analogy, a bell struck by a clapper sounds a note, radiating energy in the form of sound waves, but the strength of the note diminishes rapidly as the vibrations of the bell diminish in amplitude; if the vibrations are "damped"—as, for instance, if one places a hand on the bell's surface—the sound dies away very quickly. The same occurs with a spark discharge, the degree of damping depending on the internal resistance of the circuit and the rate at which it radiates energy into space. The radio wave generated by a succession of spark discharges consists of a series of these damped oscillations. Although it might radiate continuously, a spark transmitter does not generate what is known as a true continuous wave.[46] Thus, if voice is sent by a spark-gap transmitter, its sensuality is pared down, reduced to a skeleton.

The second problem is the spark-gap transmitter's gluttony of "space" on the radio spectrum. The damped oscillation generated by a spark gap can decompose into a large number of further oscillations, each with a frequency and wavelength of its own; thus the spark transmitter generates not one wave, but many. Its signal is not at a single "place" on the spectrum, but at many places, and its frequency is therefore extremely broad, with the result that the spectrum can become congested and "polluted" with interference from competing transmitters.

In order to overcome the problems associated with the spark-gap circuit, a technology known as the "continuous wave" was developed between 1906 and 1912. As a result, not only voice transmission but also the narrowing of frequencies became increasingly possible. By the early to mid-1920s, spark-gap transmission—already some twenty-five or so years old—has been almost entirely replaced by continuous-wave transmission. In 1922, therefore, the spark-gap circuit that Ioganson chooses to represent in his *Electrical Circuit (Representation)* is a technology already well on its way to obsolescence. What is the significance of this fact? How we answer this question will determine, at least provisionally, whether we identify the sheet as the "technics" or "invention" drawing in the triad.

One might suggest that the drawing is an instance of inadvertent belatedness—that Ioganson seeks to represent the dynamism of invention, but is simply unaware that the par-

ticular kind of circuit he diagrams is already out-of-date, thereby providing unwitting testimony to the temporal lag that often characterizes the intelligentsia's enthusiastic embrace of technological advance. This reading identifies the sheet as the invention drawing (and thus as the third) in the sequence, but it also underscores its rhetorical failure as such, insofar as the role of the invention drawing is presumably to demonstrate that the realm of invention constitutes the vanguard of technics. (Such demonstration is essential if the drawing is to shore up Ioganson's argument for the Constructivist as vanguard inventor in industrial production.)

Alternatively, the anachronism of *Electrical Circuit (Representation)* can be read as a self-conscious and deliberate evocation, on Ioganson's part, of the polemical argument he makes in the *kredo* concerning the "stagnant bog" of technics. In this case, the sheet, with its near-obsolete spark-gap circuit, represents technics (and thus constitutes the *second* of the original triad). This reading derives further support from circumstantial evidence suggesting Ioganson's probable close familiarity with recent advances in radio technology (for example, the fact that before moving from Petrograd to Moscow in August 1918, he attended the military academy, where radio engineering was a subject of instruction). On balance, therefore, I would argue—but provisionally, as we shall see—that the anachronism of *Electrical Circuit (Representation)* is a deliberate demonstration, on the artist's part, of the stasis of technics.

INVENTION, WITHOUT DETERMINATE END

Why does Ioganson invoke the field of electrotechnology and, in particular, the new communications technology of wireless telegraphy? And what does this choice suggest with regard to the logic or argument of his March 1922 intervention into the INKhUK debate concerning the formulation of an art of production?

In a May 1921 discussion about functionalism, Ioganson, Rodchenko, and other Constructivists debated whether or not the form or structure of an object should or could be determined in advance by that object's function or purpose. Rodchenko stated his conviction that a Constructivist structure must be based upon its intended function: "The goal of a constructive structure has to be established. . . . One has to begin . . . with its purpose." But in responding to this and other related comments by his colleagues, Ioganson asserted that: "When they invented the radio, they did not exactly know then how they would use it."[47] Two things are immediately striking about this response: First, it diverted the Constructivists' discussion of the problem of functionalism away from the question of the pertinence of function to the design of an *object,* toward the question of its pertinence to a particular technological *invention.* Second, and most importantly, it contested the assumption that function or purpose may be predetermined, thereby raising doubts about the very possibility of a Constructivist legislation of form or structure by function or purpose. That is, his remark chal-

lenged the very doctrine of functionalism upon which the Constructivists' transition from easelism to production was—at least programmatically speaking—to be based.

To understand the force and import of Ioganson's radio remark, we need to consider the historical context of its utterance. In Russia in the early 1920s, as in the United States and elsewhere, wireless telegraphy has come to have far greater significance than its inventors originally envisaged. The technology of the continuous wave, which gradually replaced that of the spark gap, played a major role in this. Although its original purpose was to ameliorate point-to-point communication, the continuous wave contained other potentialities—specifically, the technology that made radio broadcasting possible, a potential first realized by amateur broadcasters who increasingly came to understand that wireless telegraphy's lack of privacy—the very fact of its *broad*cast—might be an advantage rather than a disadvantage after all.[48]

In Russia, the first experimental radio broadcasts took place on a sporadic basis in the 1910s, but after the October Revolution, the development of radio broadcasting became a priority for the Bolshevik government. Union-wide radio broadcasting commences in 1922, with state control of the radio spectrum beginning the same year. Radio broadcast becomes a major tool in the implementation of the Bolsheviks' early policy of international socialism, which holds that the spread of socialist revolution abroad, especially among the more industrially advanced western European nations, is crucial to the securing of the Revolution in Russia. As Lenin describes it, the radio is a "newspaper without paper and 'without borders.'"[49] The subject of radio is extremely topical in the early 1920s also among artists. In 1921, for example, on the brink of the broadcast era, Khlebnikov writes a visionary account of the "infinite tasks" of the Russian Telegraph Agency (Rossiiskoe telegrafnoe agentstvo; ROSTA) of the future, which includes a discussion of the radio broadcast potential of wireless telegraphy.[50]

Ioganson makes his antifunctionalist radio remark in the INKhUK at the precise historical moment of the transformation of wireless telegraphy into radio broadcast, a transformation that frankly instantiates the principle that invention is a process *without determinate end.* Therefore, it is possible to suggest that what is crucially significant about the spark gap that Ioganson has chosen to diagram in *Electrical Circuit (Representation)* is not so much its status in 1922 as a near-obsolete technology, but rather that it was once an invention that also constituted, unbeknownst to its inventors, an essential step along a path that eventually—though not, of course, inevitably—led to radio broadcasting. This reading identifies the drawing as a simultaneous figuration of (stagnant) technics and (dynamic) invention.

What, then, are the implications of *Electrical Circuit (Representation)* in terms of the overall argument of Ioganson's March 1922 package of documents submitted to Babichev? Earlier in this chapter, I suggested that the relationship between the two surviving 1922 drawings might demonstrate not so much an opposition of terms, but rather a reading—in the sense of a *revising*—of the first term, "construction," by means of the second and third terms,

"technics" and "invention." It is now possible to substantiate this claim, at least in part. Prompted by Loganson's remark apropos the radio, I have reconstructed *Electrical Circuit (Representation)* as a double figuration of technics and invention; how might this sheet serve, in turn, to reconstruct its companion drawing, *Construction by Loganson (Representation)*? As previously discussed, this drawing represents in diagrammatic form the fundamental principle underpinning the artist's spatial constructions (that of the cross), a photograph of which was also included in the package. Together, these documents suggest that Loganson proposes that a definition of invention as a process without determinate end underscores not just the spark-gap circuit, but also the spatial construction itself—that is, that the spatial construction is something like a speculative proposition with unknown potentialities and applications, a proposition that could, in principle, come to fulfill functions not originally prescribed for and by it. Reconstructed in this way, Loganson's submission serves to rescue the spatial construction from the fate of easelism, into which the INKhUK's productivist shift—a shift fully embraced by the artist—is otherwise driving it. (Thus, as we shall see in chapter 5, when Loganson exhibits his spatial constructions at the *Erste Russische Kunstausstellung* in Berlin in October 1922, he gives them a new name, *Bautechnische Konstruktion*, rather than *Raumkonstruktion*, the appellation used for the spatial constructions shown by his Constructivist colleagues at the same exhibition.[51]) This principle—invention without determinate end—is the key to Loganson's assertion of the potential efficacy of the non-technical-specialist Constructivist as a vanguard inventor in industrial production: When he invented the spatial construction, he did not exactly know then how he—or they—would use it.

70 Nikolai Tarabukin, *From Easel to Machine* (*Ot mol'berta k mashine;* Moscow: Rabotnik prosveshcheniia, 1923). Front cover by Antonina Sofronova. Research Library, The Getty Research Institute, Los Angeles.

4

The Death of the Object

Every form is the frozen instantaneous picture of a process. Thus a work is a stopping-place on the road of becoming and not the fixed goal.

EL LISSITZKY, foreword to *Nasci* (1924)

What can oppose the decline of the west is not a resurrected culture but the utopia that is silently contained in the image of its decline.

THEODOR ADORNO, "Spengler after the Decline" (1955)

NOT OUR *SPUTNIK*

Of the various contemporary texts that tell the story of the INKhUK Constructivists' shift to productivism in late 1921, the best-known is Nikolai Tarabukin's polemical tract *From Easel to Machine* (1923; fig. 70). Tarabukin's text is chiefly celebrated for its vivid contribution to twentieth-century discourses on the death of painting. My primary concern here, however, is to explicate for the first time its author's unorthodox theorization of the productivist platform. In doing so, one of my objectives is to demonstrate that *From Easel to Machine* provides evidence of an alternate or dissenting trajectory within the INKhUK's posteaselist platform, and thereby affords us a more complex understanding of the Constructivists' endeavor overall.

Tarabukin begins writing *From Easel to Machine* in fall 1921, completes a substantial draft by March 1922, revises this draft in fall 1922, and publishes it with Rabotnik prosveshcheniia in July 1923 in an edition of two thousand.[1] Throughout this period, he is not only a member of the INKhUK—having joined on April 1, 1921—but also serves as its academic secretary.[2] It is thus from the point of view of an eyewitness that he documents the Constructivists' call in late 1921 for an immediate transfer from the realm of the fine arts to the industrial

arena. The text is not simply a recitation of stenographic records, however, despite its documentary status. On the contrary, *From Easel to Machine* is an utterly partisan, forty-four-page prognosis for art's future direction—in short, it is a manifesto or polemical tract that helps to shape the radical shift it seeks to delineate.

Nowhere is the prognostic character of *From Easel to Machine* more manifest than in its dialogue with the work of the then-fashionable right-wing German writer Oswald Spengler, who, notoriously, declares Marxism and its Russian "derivative," Bolshevism, to be but the "dregs" of western Europe's "infiltration" of Russia.[3] In the summer of 1918, a small Viennese press published Spengler's *The Decline of the West: The Contours of a Morphology of World History* (*Der Untergang des Abendlandes: Umrisse einer Morphologie der Welt-Geschichte*, the first book of a projected two-volume set),[4] which its author mistakenly claims as the first attempt to formulate a biological theory of the nature of historical change. Spengler's ultimate purpose is to explain the "degeneration" of western European culture since the beginning of the nineteenth century. The writer himself reports that Georg Simmel referred to *The Decline* as "the most important philosophy of history since Hegel."[5] But Simmel's alleged appraisal is rarely repeated elsewhere, partly because Spengler's other, and equally fundamental, ambition is the writing of historical prophecy—an enterprise abhorrent to professional historians and social theorists for its attribution of blind necessity to history.

The deterministic vision of *The Decline* earns the book phenomenal popularity and infamy in the early 1920s, not only in Germany and Austria, but also in Russia. Iurii Annenkov writes in the Petrograd journal *Zhizn' iskusstva* (Life of art) that Spengler is one of the three latest rages within the European intelligentsia (the others being Albert Einstein and the novelist Pierre Benoit).[6] Ilya Ehrenburg reports that "even a fragrance called 'Decline of the West' [has] appeared on the market."[7] Familiarity with this major "event" in German cultural life has quickly become a sign, the Marxist philosopher Abram Deborin comments, that one is "in the fashion."[8] The abundance of Russian translations of Spengler in the early years of the 1920s is by itself testimony to the Russian intelligentsia's tremendous fascination with the controversial German writer.[9]

But there is something more to this fascination than celebrity fever. Spengler is, in fact, the latest fall guy in a long-standing debate in Russia between two bitterly opposed camps: a "radical intelligentsia" composed of Marxists and other social revolutionaries, who are historically materialist, atheist, internationalist, and technophilic, and what Jane Burbank calls a "counter-intelligentsia," composed of Slavophiles and other conservative groups, who are idealist, Christian, nationalist, aestheticist, and technophobic.[10] The only thing both camps agree upon in regards to Spengler is his indebtedness to Slavophile Russian writers of the late nineteenth century such as Nikolai Danilevskii and Konstantin Leont'ev. On all other issues, they disagree.

So what is Tarabukin—a productivist theoretician in the leftist-oriented INKhUK—doing with Spengler? Recall that in April 1921 the INKhUK Constructivists dedicated themselves to the pursuit of the "Communist expression of material structures." Tarabukin's fellow pro-

ductivist theoreticians—Boris Arvatov, Osip Brik, and Boris Kushner—are all members of the Russian Communist Party (Rossiiskaia Kommunisticheskaia partiia [bol'shevikov]; RKP[b]) and since fall 1921 have dominated the INKhUK's board. Although on the Left, Tarabukin is neither a Marxist nor a party member. In the territory of the radical intelligentsia, his invocation of Spengler is surely extremely provocative, especially given Lenin's denunciation of the German writer and his Russian followers in the daily newspaper *Pravda* in May 1922.[11]

Significantly, Tarabukin himself confronts this issue directly. On June 8, 1923, a month before the publication of *From Easel to Machine*, he presents to the INKhUK a paper in which he seeks to illuminate the pertinence of Spengler's prognosis for the "art of the future." Present in the audience are Arvatov and Brik, Aleksei Babichev, Gustav Klucis, Anton Lavinskii, Liubov' Popova, Aleksandr Rodchenko, Sergei Sen'kin, Varvara Stepanova, and Aleksandr Vesnin. In his paper, Tarabukin observes,

> With regard to Russian artistic thought in its extreme left-wing expressions (the idea of production art), it is very interesting to trace the coincidence *[sovpadenie]* of Spengler's views concerning the degeneration of the easel forms of art. [His] views also shed light on the issue of the "non-objective" forms of contemporary culture.

With the carefully chosen word "coincidence," Tarabukin avoids any inappropriate suggestion that Spengler may have influenced the productivists. He also rules out any possibility of ideological confluence:

> Spengler's views are founded . . . on completely different premises than those of the Russian productivists. Spengler is an idealist and imperialist. Our views have a materialist foundation. . . . [W]e cannot consider Spengler our fellow traveler *[sputnik]*.[12]

Following Tarabukin's lecture, a discussion ensues in which Arvatov, Brik, Vesnin, and others participate. Unfortunately, minutes of the discussion have not been preserved, but given the almost complete absence of references to Spengler in the writings of Tarabukin's fellow productivists, it seems plausible to suggest that they do not share the enthusiasm of their colleague, nor of many other Russian cultural critics active in the early 1920s.[13] In fact, even without inference of intellectual or ideological inheritance, Tarabukin's juxtaposition of Spengler's reactionary antimodernism and the radical left's antieaselism may well have caught his interlocutors by surprise. The Constructivists' insistent technological rationalism after fall 1921 would seem to be the very target of Spengler's charge—as it was then, and is still today, commonly understood—that science and technology are responsible for the dehumanization and thus decline of western European culture. Equally, the productivists' utopian vision—to shape the very stuff of people's everyday lives—would appear to be at odds with Spengler's cultural despair. Would "antithesis" not therefore be a more appropriate description of their relationship than "coincidence"?

In fact, Tarabukin's assertion of a certain coincidence between Spengler and the productivists has considerable cogency in the historical period of its articulation, both as a perspicacious interpretation of Spengler's theory of the degeneration of the fine arts and as a critical formulation of productivist theory. Although some might dismiss Tarabukin's juxtaposition as simply another example of the way in which the extreme left and the extreme right often have more in common than not, examining its theoretical efficacy and historical significance affords a more complex understanding of the Constructivists' attempt to formulate a materialist foundation for their future cultural endeavor.

THE MORTALITY OF CULTURES

In writing *From Easel to Machine,* Tarabukin has not one but two encounters with *The Decline.* The first, in fall 1921—the one most familiar to critics and historians today—stimulates Tarabukin's critical reflections upon the death of painting in the opening pages of his book.[14] These reflections are first elaborated in a lecture he presents to the INKhUK on October 30, 1921. Entitled "The Last Picture Has Been Painted" ("Posledniaia kartina napisana"), the lecture addresses a controversial group exhibition, *5 × 5 = 25: An Exhibition of Painting* (*5 × 5 = 25: Vystavka zhivopisi),* which opened the previous month in the rooms of the Club of the Union of Russian Poets (Klub soiuza russkikh poetov) on Tverskaia in central Moscow. Of the twenty-five paintings in the exhibition, Tarabukin discusses just one: Rodchenko's monochrome *Pure Red Color* (see plate 9)—"a small, almost square canvas, painted all over with nothing but red pigment" (*OM,* 12)—in which the critic believes he has found the precise moment of painting's death.

In order to elucidate the significance of *Pure Red Color,* however, Tarabukin does not present a historically materialist explanation of the monochrome, as his fellow productivists might have done.[15] Instead, he resorts to two specific arguments presented by Spengler in the first volume of *The Decline.* The first is Spengler's relativist theory of the mortality—or temporal finitude—of cultures:

> Every thing-become is mortal. [It is] not only peoples, languages, races and Cultures [that] are transient. In a few centuries from now there will no more be a Western Culture, no more be German, English, or French than there were Romans in the time of Justinian. . . . All art is mortal, not merely the individual artifacts but the arts themselves. One day the last portrait of Rembrandt and the last bar of Mozart will have ceased to be—though possibly a coloured canvas and a sheet of notes may remain—because the last eye and the last ear accessible to their message will have gone. Every thought, faith and science dies as soon as the spirits in whose worlds their "eternal truths" were true and necessary are extinguished (*DW,* I, 167–68).

Spengler's theory of the inevitable death of any given form of cultural expression is the bedrock

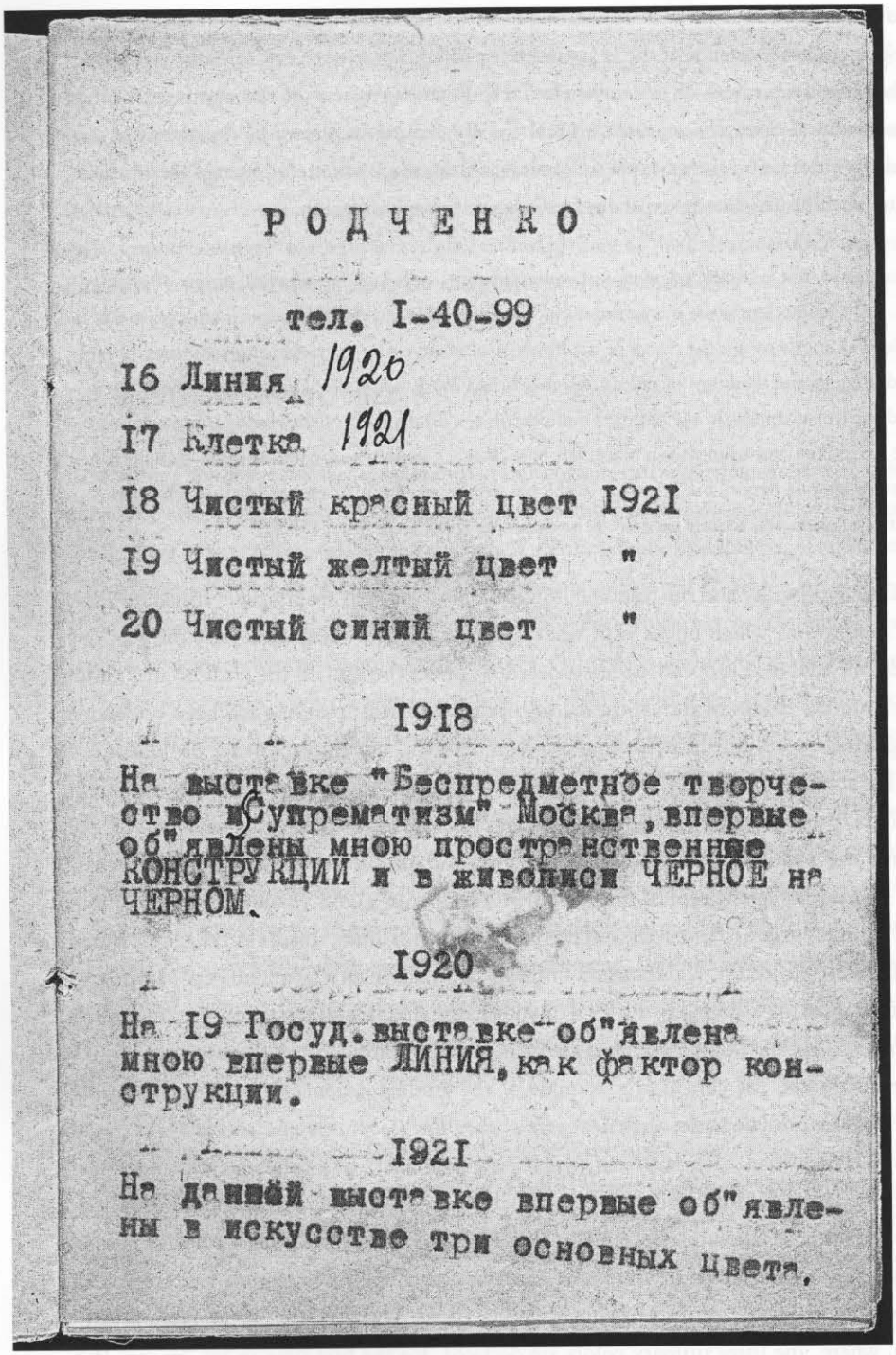
of his denunciation of modernist painting as sure evidence of that medium's incontrovertible, "Alexandrian" decline (*DW,* I, 293–94).

The second argument of pertinence to Tarabukin's explication of the significance of the monochrome is Spengler's contention that the chief cause of painting's degeneration is its increasing submission since Manet to "analytical thinking," which, following Goethe, he associates with death. The space of Impressionism, Spengler regrets,

> is cognized, not experienced, seen, not contemplated. . . . It is the mechanical object of physics. . . . The modern artist is a workman, not a creator. He sets unbroken spectrum-colors side by side. The subtle script, the dance of the brush-strokes, give way to crude commonplaces, pilings and mixings and daubings of points, squares, broad inorganic masses. The whitewasher's brush and the trowel appear in the painter's equipment; the oil painting of the canvas is brought into the scheme of execution and in places left bare. It is . . . meticulous, cold, diseased—an art for over-developed nerves, but scientific to the last degree, energetic in everything that relates to technical obstacles, acutely assertive of programme (*DW,* I, 49 n. 1, 288–89).

Cultural mortality and the terminal implications of analysis are concepts crucial to *From Easel to Machine,* which opens with what Tarabukin calls a "diagnosis." For the past few decades, he tells us, European art has proceeded "under the sign of 'the crisis of art.'" Since Manet and the Salons of the 1860s, the history of modernist painting has been celebrated as a "gradual process of the perfecting of pictorial form," but the experience of the last few years has afforded a rather different perspective. It is now possible to grasp the double-cut of painting's "progress": on the one hand, we have "the steady dismantling of the once-integral pictorial organism into its constituent elements" and, on the other, "the gradual degeneration of painting as the typical form of artistic endeavor" (*OM,* 5). Inherent in the modernist painter's desire to reveal the essence of his or her medium, Tarabukin suggests, is that medium's certain death. Modernism's ontological drive, insofar as it subjects painting to analytical thinking—precisely the kind of endeavor that Tarabukin championed in *Toward a Theory of Painting (Opyt teorii zhivopisi)*—necessarily culminates in necrosis.

For Tarabukin, the concluding example of the gradual degeneration of easel painting under modernism's necrotic, analytical gaze is *Pure Red Color,* one of a trio of small oils of identical dimensions, each saturated with a pure primary.[16] In a catalogue accompanying the $5 \times 5 = 25$ exhibition, Rodchenko assigns his monochromes separate object numbers, entitling them like laboratory specimens: *Pure Red Color, Pure Yellow Color, Pure Blue Color.* He also includes a deadpan, résumé-style enumeration of his innovations since 1918, which he describes as a series of unprecedented "declarations," culminating in the present exhibition, where "the three primary colors are declared, for the first time in art, by me" (fig. 71).[17] In responding to Rodchenko's declaration, Tarabukin addresses not the painter's primary colors, but rather the eschatological significance of his monochromy. Rodchenko has succeeded in a final painting out of the picture, the critic argues, a sealing of the plane of



РОДЧЕНКО

тел. I-40-99

I6 Линия 1920

I7 Клетка 1921

I8 Чистый красный цвет I92I

I9 Чистый желтый цвет "

20 Чистый синий цвет "

I9I8

На выставке "Беспредметное творчество и Супрематизм" Москва, впервые об"явлены мною пространственные КОНСТРУКЦИИ и в живописи ЧЕРНОЕ на ЧЕРНОМ.

I920

На I9 Госуд. выставке об"явлена мною впервые ЛИНИЯ, как фактор конструкции.

I92I

На данной выставке впервые об"явлены в искусстве три основных цвета.

71 Aleksandr Rodchenko's entry in the catalogue accompanying *5 × 5 = 25: An Exhibition of Painting*. Club of the Union of Russian Poets, Moscow. 1921. Research Library, The Getty Research Institute, Los Angeles.

representation into an absolute contraction of depth, into a smooth, licked, opaque surface unbruised by differentiation of figure and ground. Rodchenko's "stupid, dumb, blind wall" *(tupaia, bezglasnaia, slepaia stena)* boasts neither aesthetic value nor use value (it is not a model for a decorative mural painting, for example) (*OM,* 12); it brings to an end modernist painting's self-reflexive pursuit of its own irreducible materiality.

But it is precisely this destitution, Tarabukin continues, that affords Rodchenko's gesture its historical eloquence. The monochrome demonstrates, by negation, that the essence of painting is not, in the end, to be found in its irreducible materiality, but rather in its abiding capacity for representation: "[it] persuades us that painting was, and always will be, a *representational* art, that painting cannot transgress the limits of representation" (*OM,* 13, original emphasis). *Pure Red Color* is thus

> *the last, final step* of a long journey, the last word, after which the speech of the painter must fall silent, the last "picture" to have been created by an artist. This canvas eloquently demonstrates that painting, as a representational art, as it has always been, has become obsolete (*OM,* 12, emphasis added).

In this passage, Tarabukin has adopted the precise rhetoric of Spengler's lament that the art of Wagner and Manet

> signifies . . . the beginning of dissolution. . . . As a step, it is necessarily *the last step* . . . it is the mark of the end. . . . And the bitter conclusion that it is all irretrievably over with the arts of form in the West. The *crisis* of the nineteenth century was the death-struggle (*DW,* I, 293, emphasis added).

For Tarabukin, Rodchenko's monochrome concludes not only the history of modernist painting, but also the entire trajectory of easelism. As the painter's "last word," it marks a historical rupture *(delaet epokhu);* it contests any possibility of the medium's further development. Here, Tarabukin's argument is again subtended by *The Decline* insofar as Spengler's model of historical development is antilinear—Spengler derides the "professional historian . . . [who] sees [history] as a sort of tape-worm industriously adding onto itself one epoch after another" (*DW,* I, 21–22). Tarabukin likewise scorns the custodians of the State Tret'iakov Gallery (Gosudarstvennaia Tret'iakovskaia galereia), who, he predicts, will have no comprehension of the historical rupture that Rodchenko's monochrome signifies, but will instead seek to acquire it as they would any other picture lest their collections otherwise betray a gap in the unfolding linear sequence of artistic movements that acknowledges neither beginning nor end (*OM,* 11–12).

Tarabukin is not the only member of the INKhUK for whom Spengler's theory of the mortality of cultures has profound resonance in 1921. His colleague El Lissitzky, a newcomer that fall, also invokes Spengler's theory of cultural mortality, but in support of an alternative declaration of the death of painting. The same exhibition that inspires Tarabukin to formulate his account of the end of easelism also partly inspires Lissitzky in his, albeit nega-

tively: "We have nothing in common," Lissitzky soon writes, "with . . . painters who propagandize for the end of painting by means of painting itself."[18] On September 23, 1921, less than a week after Rodchenko's monochromes are installed at *5 × 5 = 25*, Lissitzky presents a lecture to the INKhUK on his own new art of the *proun* (a term derived from *proekt utverzhdeniia novogo*, or project for the affirmation of the new)—mixed-media works that he defines as neither painting nor architecture but midway stations between the two (fig. 72) . Entitled "*Prouns:* Toward the Conquest of Art" ("Prouny: V preodolenii iskusstva"), the lecture is the first in a projected series of four Lissitzky is contracted to present at the INKhUK over the course of six months (fig. 73). One of its ambitions is to demonstrate that the *proun* represents not only a path to the future, but a specifically Constructivist path.

The original manuscript of the lecture (for which Lissitzky designs a cover; fig. 74), as well as two versions of it published in 1922,[19] include, as an epigraph, a loose paraphrase of Spengler's passage on cultural mortality quoted above. Eliding and condensing the German writer's expansive prose, Lissitzky writes:

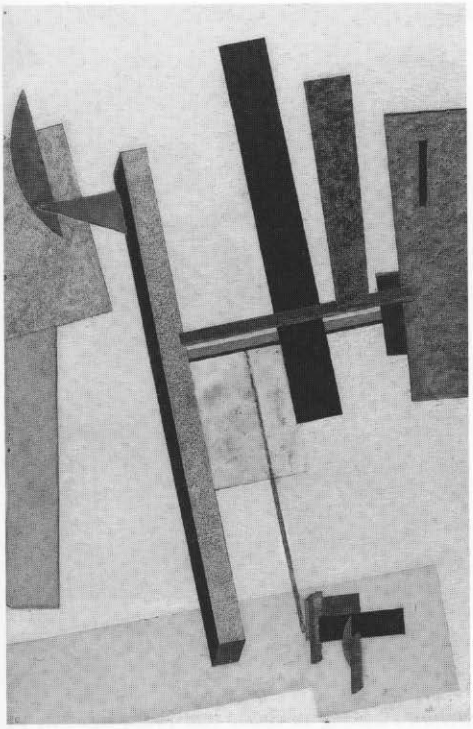
> All the arts are mortal, and not just individually, but also as a whole. One day Rembrandt's last portrait will cease to exist, even though the painted canvas will still be intact; but the eye that apprehends this language of forms will disappear.[20]

What is the function of Lissitzky's citation of Spengler (other than its crucial relevance, as Peter Nisbet and Yve-Alain Bois have demonstrated, to the relativist account of numeration systems that Lissitzky presents in his lecture)?[21] As an outsider now on Constructivist territory, Lissitzky foregrounds the mortality of the "eye"—that is, the historical specificity and cultural relativism of perception—in an attempt to convince his skeptical new colleagues that the *proun* is, in fact, a construction (rather than an easel painting). Underlying this argument is Lissitzky's refusal to define the principle of construction (and, by implication, the Constructivist object), in terms of material dimensionality: "For us," the artist asserts, "the space of the two-dimensional surface is of the same character as the three-dimensional volume and is just as strong and as inexorable as the earth."[22]

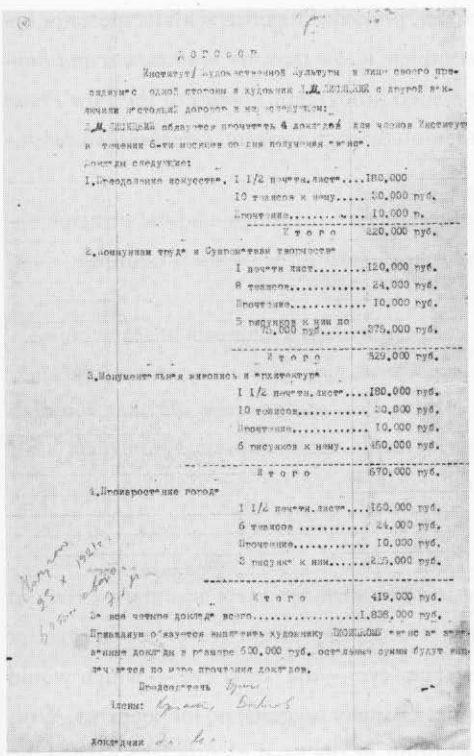
In order to substantiate his claim for the *proun*'s status as a construction, Lissitzky distinguishes the *proun* from that very body of work to which it is explicitly indebted—the Suprematist paintings of Malevich, his colleague and mentor at the Vitebsk State Free Art Studios (Vitebskie gosudarstvennye svobodnye khudozhestvennye masterskie) since 1919. "For all its revolutionary force," Lissitzky tells the INKhUK,

> the Suprematist canvas [nevertheless] remained in the form of a picture. Like any canvas in a museum, it possessed one specific perpendicular axis (vis-à-vis the horizon), and when it was hung any other way it looked as if it were sideways or upside down.

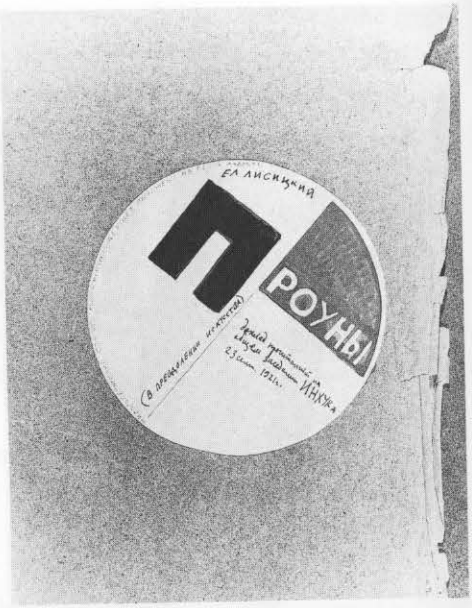
The *proun*, in contrast to Malevich's Suprematist painting, possesses a rotational force, Lissitzky argues, that destroys altogether the perpendicular axis "proper" to the easel picture.



72 El Lissitzky. *Proun 2C.* ca. 1920. Oil, paper, and metal on wood. 60 × 40 cm. Philadelphia Museum of Art, A.E. Gallatin Collection. Photograph by Graydon Wood.



73 Contract between the INKhUK and El Lissitzky for a series of four lectures to be presented at the INKhUK, dated October 25, 1921. Typescript (carbon copy) with pencil annotations. The Getty Research Institute, Los Angeles, no. 950076 (El Lissitzky: Letters and Photographs, 1911–1941), box 1, folder 7. Photograph courtesy of Research Library, The Getty Research Institute, Los Angeles.



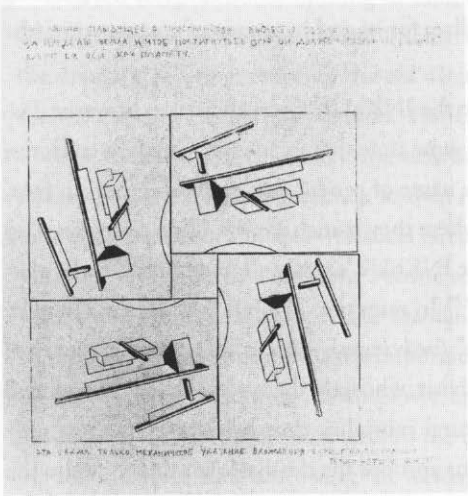
74 El Lissitzky. *Design for Cover of the Publication "Prouns: A Lecture Read at the General Meeting of the INKhUK, September 23, 1921."* 1921. Black and red gouache, ink, and pencil on gray folded paper. 37.7 × 24 cm. Costakis collection, inv. no. C518. The State Museum of Contemporary Art, Thessaloníki. Photograph courtesy of The State Museum of Contemporary Art, Thessaloníki.

Consider, for example, the lithograph *Construction Floating in Space* (ca. 1920; fig. 75), in which a single image is rotated through 360 degrees in four 90-degree increments. Lissitzky inscribes the sheet: "Construction floating in space, propelled together with its spectator beyond the limits of the earth, and in order to complete it, *the spectator must turn it and himself around its axis* like a planet."[23] In another related lithograph, *Proun 1* of the *First Proun Portfolio* (1921; fig. 76), he inscribes the sheet "rotation through a sphere" *(dvizhenie po sfere)*—that is, through 360 degrees.

Lissitzky argues that insofar as the *proun* destroys one of painting's cardinal principles—its perpendicular axis—it can no longer be thought of within the terms of painting:

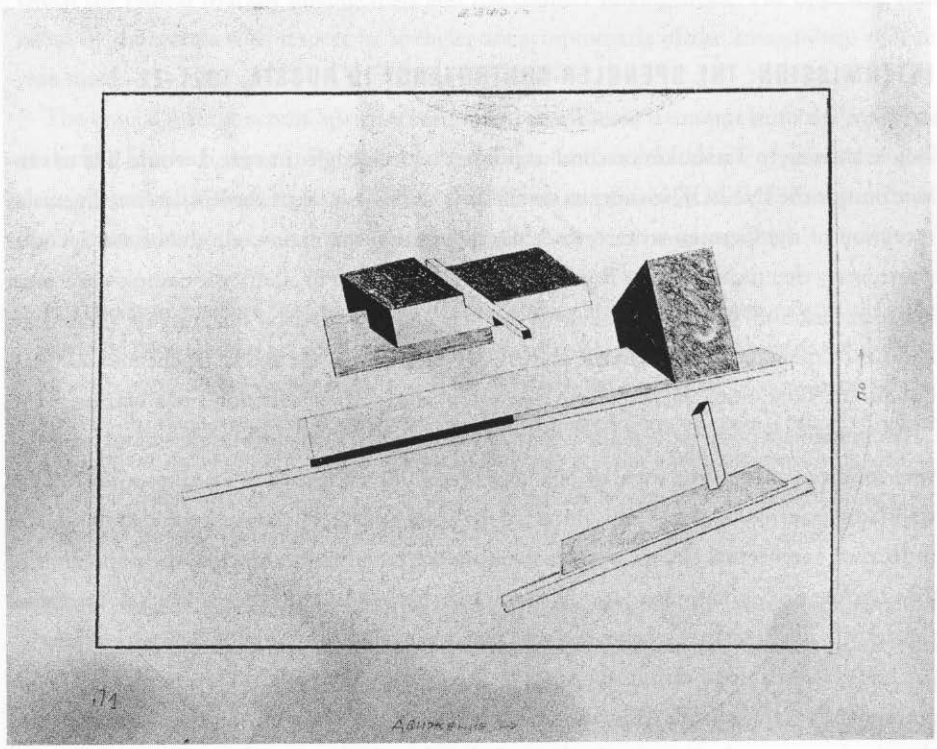
> The painted picture has been smashed to bits. . . . In continuing to paint with brush on canvas, we have seen that we are now building and the picture is burning up. We have seen that the surface of the canvas has ceased to be a picture. It has become a construction and like a house, you have to walk round it, to look at it from above, to study it from beneath. The picture's one perpendicular axis (vis-à-vis the horizon) turns out to have been destroyed. We have made the canvas rotate.[24]

Lissitzky's analysis of the *proun*'s rotational force is the most direct argument advanced in his claim for the *proun* as a construction, and it relies upon his performative embrace of Spengler's theory of the mortality of cultures. The "eye"—the "easel eye"—which would incorrectly perceive the *proun* as an easel painting, Lissitzky suggests, no longer exists. With rotation, the familiar apparatus for the apperception of the easel picture (the perpendicular, frontal conditions of spectatorship) has been abolished. In Lissitzky's utopian present,



75 El Lissitzky. *Construction Floating in Space.* ca. 1920. Lithograph with graphite annotations. 49.8 × 51.1 cm. Collection of Mr. and Mrs. Germán Jiménez, Caracas.

76 El Lissitzky. *Proun 1* of *First Proun Portfolio.* 1921. Lithograph. Costakis collection. The State Museum of Contemporary Art, Thessaloníki. Photograph courtesy of The State Museum of Contemporary Art, Thessaloniki.



the "eye"—the "Constructivist eye"—registers the *proun* not as a painting, but as a construction. Lissitzky's analysis of the *proun* thus constitutes an alternative declaration of the death of painting: instead of propagandizing for the end of painting by means of painting itself (the monochrome), Lissitzky propagandizes for its end by means of construction (the *proun*).

Such perceptual relativism fails to convince the INKhUK Constructivists, however. Lissitzky resigns from the institute at around the same time that its members make a collective decision to abandon easelism altogether in the name of production, on November 24, 1921. In December, he joins Ehrenburg in Berlin, where they launch *Veshch' Objet Gegenstand*, in the inaugural editorial of which they attack the INKhUK's newly adopted productivist platform: "Primitive utilitarianism is alien to us."[25] In response, Tarabukin dismisses Lissitzky and Ehrenburg's enterprise as mere "objectism" *(veshchizm)*—that is, as an easelist theory of the object derived from the Moscow Constructivists, who have themselves already abandoned it (*OM*, 28 n. 2).[26] Spengler's theory of cultural mortality thus helps to shape not only Tarabukin's and Lissitzky's critical interventions apropos the death of painting, but also the further development of Constructivism along two competing but often intersecting trajectories—Muscovite and international.

INTERMISSION: THE SPENGLER CONTROVERSY IN RUSSIA, 1921–22

Before turning to Tarabukin's second encounter with Spengler in 1922, I would like to venture outside the INKhUK in order to sketch the broader context of the Russian intelligentsia's reception of the German writer's work. By delineating the main contours of the Spengler controversy that unfolds in the Russian press in 1922, I wish to clarify the complex exchange between East and West that underpins the Spenglerian inflection not only of Tarabukin's and Lissitzky's contributions to the INKhUK's discourse of the end of easelism in fall 1921, but also of Tarabukin's particular theorization of the art of production from 1922 on.

An immediate point to be made is that Tarabukin's and Lissitzky's interventions are at the very forefront of the first wave of Spengler's reception in Russia. According to one of his translators, German Genkel', it is not until 1921 that Spengler becomes a topic of discussion in Russian intellectual circles, notwithstanding the fact that by this time the popularity of *The Decline* in Germany has already prompted thirty-odd reprintings. Genkel' attributes the delay in the Russian reception to a very practical exigency—the great difficulty of obtaining books from abroad during the years of the western Blockade.[27] Copies of *The Decline* are especially scarce outside Moscow—one member of the Petrograd intelligentsia complains that, in contrast to the situation in the capital, only a single copy of the German original is available in his city in 1921.[28] But despite the shortage—and as if also somehow to compensate for it—Russian translations of excerpts from *The Decline* and short essays by the writer begin to appear in Russian periodicals or as inexpensive, widely distributed "brochures"

in 1921, and at an increasing pace through the following year.[29] Two different unabridged Russian translations of the first volume then appear in 1923.[30]

Delayed reception does nothing to diminish the controversy generated by *The Decline,* however. Spengler's popularity and infamy in Bolshevik Russia stems at least in part from the dramatic reconfiguration of the old debate between "Europeanizers" and Slavophiles in the wake of the October Revolution. The Europeanizing policies of Peter the Great, instituted in the early eighteenth century, were based on the view that although Russia belonged to Europe geographically speaking, its own national past had deprived it of all the great cultural inheritances of Europe—classical Greece, the Italian Renaissance, the rise of scientific thinking, and so forth. Under the Petrine reforms, Russia set about acquiring these inheritances, refashioning many aspects of Russian life according to European principles and taste. In the realm of art, this meant the importation of neoclassicism and the denigration of indigenous artistic traditions, both Slavic and Asiatic. In the mid-nineteenth century, a groundswell of Slavophile resistance to the ongoing process of Europeanization arose, calling for an end to the "borrowing" of western European culture on the grounds that it was foreign to Russia's own national culture.[31] In the wake of the October Revolution, the historical antithesis between Europeanizers and Slavophiles is reconfigured into a struggle between the radical Marxist intelligentsia and the counter-intelligentsia. The opposing roles taken by the camps with respect to Spengler are symptomatic of the antagonisms that divide them.

The crucial issue concerns Spengler's argument that Russia is exempt from the condition of decline in which western European culture finds itself, on the simple grounds that Russia is *not* part of Europe. Spengler asserts that the assumption of a shared "European" culture common to both eastern and western parts of Europe is insupportable:

> It is thanks to this word "Europe" alone, and the complex of ideas resulting from it, that our historical consciousness has come to link Russia with the West in an utterly baseless unity—a mere abstraction from reading books—that has led to immense real consequences. In the shape of Peter the Great, this word [Europe] has falsified the historical tendencies of a primitive human mass for two centuries, whereas the Russian *instinct* has very truly and fundamentally divided "Europe" from "Mother Russia." . . . "East" and "West" are notions that contain real history, whereas "Europe" is an empty sound (*DW* I, 16 n. 1, original emphasis).

Elsewhere in *The Decline,* Spengler condemns the Petrine policy of "becoming European" as a falsification of the true, "will-less" Russian soul, the *Urphänomen* (prime-symbol or primal phenomenon) of which is the horizontal "limitless plane."[32] Its "lack of any vertical tendency" (in art, architecture, and ethics) distinguishes it explicitly from the Faustian (that is, western European) soul's "wholly vertical tendency to strive up to fulfillment." But the *Urphänomen* of the limitless plane has never been able to reach its full expression because Russian culture has been stunted by Eurocentrism—initially by "the pseudomorphosis of Petrinism" and more recently by a new pseudomorphosis, that of Bolshevism, which Spen-

gler considers to be a purely western import (*DW* I, 201, 201 n. 2, 309).[33] Spengler's prophecy that Russia will be the locus of the new millennium (in the form of a revitalized eastern Christianity) is not fully developed until the second volume of *The Decline,* but there is already enough suggestion of this in the first volume to make him an ally of the Slavophiles in their crusade against the radical intelligentsia.

At the beginning of 1922, the Bereg press in Moscow publishes *Oswald Spengler and the Decline of Europe (Osval'd Shpengler i Zakat Evropy),* a collection of essays by four prominent members of the counter-intelligentsia—the religious philosophers and writers Nikolai Berdiaev, Ia. Bukshpan, Semen Frank, and Fedor Stepun.[34] Expectation of public interest is evidently great, since Bereg invests in an edition of ten thousand, an unusually high figure for a small private press, as one contemporary commentator notes.[35] Although the contributors to the volume claim not to share the same *Weltanschauung,* each nevertheless gives the same emphasis to what they all call the present crisis of "spiritual culture" in Russia, for which they hold responsible the "westernizing" Bolshevik Revolution and its "westernizing" cultural protagonists—the futurists. They argue that *The Decline* has made an important contribution to the discussion of the crisis, the contours of which they have already sketched in various publications.[36] *The Decline* is one of those books "that are closer to us than to Europeans," Berdiaev asserts. "This is our kind of book."[37]

The 1922 Bereg volume is an example of a new literary genre that, as Andrei Kovalev observes, intensifies in the aftermath of the October Revolution: the "lament" *(plach)* for the loss of culture, in which the eschatological or apocalyptic mood of Russian intellectuals of the first two decades of the 1900s is taken to the extreme.[38] The existence of this genre predisposes the counter-intelligentsia to find Spengler's prognostic tone, which proved so offensive to German scholars, instead appealing. Although the function of the Bereg volume is to introduce Russian audiences to this major "cultural event" in Germany, even the most exegetical of its four commentaries—that by Fedor Stepun—takes full advantage of the lament genre. This is particularly evident in his paraphrase of Spengler's passage on the mortality of cultures to which, as we saw earlier, both Tarabukin and Lissitzky also have major recourse:

> There is no immortal creation. The last organ and the final violin will one day disintegrate; the enchanting world of our sonata and *trio* . . . will fall silent *[zamolknet]* and disappear. The very highest achievements of Beethovian melody and harmony will appear to future cultures as the idiotic croaking *[karkan'em]* of bizarre instruments. The souls for whom the paintings of Rembrandt and Titian meant more than colored rags will have become extinct long before the canvases themselves will have disintegrated. Who now understands the Greek lyric? Who knows, who feels what [it] signified to the people of the ancient world?

To his own rendition of Spengler's passage, Stepun then replies:

> Nobody knows, nobody feels. There is no unified mankind at all, no unified history, no

development, no progress. There is only . . . the cyclical return from life to death, from culture to civilization.[39]

In the spirit of the lament, the Bereg authors are not nearly as bothered by Spengler's numerous factual errors as their German counterparts were. On the contrary, one of the reasons for the book's appeal is its status as a "creation"—what Stepun describes as an "organism," "a living thing"—rather than a book per se, which would have made of it a mere accumulation of "dead thoughts."[40] Taking Spengler at his word, one Petrograder writes that one should not just read this book, but feel it, live it, so as to verify its prophecy.[41]

The contributors to the Bereg collection are keen to point out the special affinity not only between themselves and Spengler, but also between Spengler and nineteenth-century Slavophiles such as Danilevskii and Leont'ev, whose writings anticipated some of the main issues with which Spengler is preoccupied—namely, organic models of cultural development, cyclical theories of history, the opposition of culture and civilization, and, most importantly, the doctrine of cultural relativism. The notion that there can be more than one culture of significance—a fact obscured by the Eurocentrism of prevailing historical models—is crucial to the Slavophiles' nationalist opposition to Russia's cultural apprenticeship to the West.[42]

That the collection's contributors fully embrace Danilevskii's argument that Russia does not belong to Europe[43] is evident even in the way they choose to translate the title of Spengler's book into Russian as *Zakat Evropy* (The decline of Europe), a rather looser and more polemical translation than the title's earlier rendering in Russian publications as *Krushenie zapadnoi kul'tury* (The fall of western culture), which is closer to the original German. The majority of Spengler's Russian interlocutors adopt the Bereg authors' example, and *Zakat Evropy* is the title that has been used ever since.[44]

Spengler's Slavophilia, whether borrowed directly from Russian sources or not, is the single point of agreement between the Bereg authors and Spengler's Marxist critics. The philosopher Deborin launches the first volley from the Marxist camp in the inaugural double issue of a new Marxist philosophical journal, *Pod znamenem marksizma* (In the name of Marxism, January–February 1922), which appears simultaneously with the Bereg volume. Deborin argues that Spengler's prophecy of decline is best understood as simply a lament for the collapse of German imperialism. His argument sets a trend: most Marxist thinkers distance *Soviet* Russia from the decline, by dismissing Spengler's book as simply the charting of the decline of the bourgeois-capitalist-imperialist West.[45]

While Deborin's comments respond specifically to *The Decline* and Spengler's essay *Preussentum und Sozialismus*,[46] other Marxists respond not only to Spengler, but also to the "Russian Spenglerians." Widely distributed, the Bereg volume quickly becomes a standard reference, and it is partly in hostility to *its* reading and framing of Spengler's enterprise as one of Christian revivalism that many attack the German writer. In the same issue of *Pod znamenem marksizma,* and somewhat as a postscript to Deborin's attack, V. Vaganian publishes a damning review of the Bereg volume, in which he argues that the only thing that

can be agreed upon by Marxists and Slavophiles is that Spengler is simply repeating what is in essence an originally Russian philosophy, Slavophilia. The forefathers of "the now very fashionable Spengler" are all Russian: Danilevskii, Dostoevskii, Leont'ev, and Vaganian's contemporary, Berdiaev. Spengler is merely "a Slavophile from Prussia."[47]

Another new Marxist journal, *Krasnaia nov'* (Red virgin soil), quickly takes up the cause against the Russian Spenglerians, publishing three essays by V. Bazarov, Sergei Bobrov, and Karl Grasis, each contributing, with varying commitment, to the evolving Marxist position. Grasis, for example, a Russian Communist Party member, argues that the Bereg contributors are all *vekhovtsy* with an unquenchable love of "propheteering."[48] The following number of the journal publishes the most hard-line position to date, written by G. Piatakov, who takes his colleagues to task for affording even the slightest value to Spengler and his Slavophilic and *vekhist* interpreters.[49]

Even when the *ex cathedra* denunciation of *The Decline* comes, it is pitched as much against Spengler's Russian followers among the Slavophiles as against the author himself. In May 1922, Lenin makes his only comment in print on the matter:

> The old bourgeois and imperialist Europe, which was accustomed to look upon itself as the centre of the universe, rotted and burst like a putrid ulcer in the first imperialist holocaust [i.e., First World War]. No matter how the Spenglers and all the enlightened philistines, who are capable of admiring (or even studying) Spengler, may lament it, this decline of the old Europe is but an episode in the history of the downfall of the world bourgeoisie, oversatiated by imperialist rapine and the oppression of the majority of the world's population.[50]

Lenin's correspondence reveals that he repudiates the Bereg volume as but a "literary screen for a white-guards organization," and includes its contributors among a group of twenty-five members of the counter-intelligentsia who are forced into permanent exile in September 1922.[51]

THE UTOPIA SILENTLY CONTAINED IN THE IMAGE OF DECLINE

Tarabukin's second, and previously unexamined, encounter with Spengler takes place in 1922–23: at a couple of key moments in *From Easel to Machine,* he inserts strings of citations from the second volume of *The Decline* (April 1922) and other related publications by Spengler. Significantly, this second encounter occurs *after* Slavophiles and Marxists have consolidated in print their opposed positions apropos Spengler, and *after* Lenin's May 1922 denunciation of the writer and September 1922 exiling from the Soviet Union of Spengler's most prominent Slavophile defenders. Spengler is not our *sputnik,* Tarabukin is thus careful to note in proposing, in the paper presented to the INKhUK in June 1923, the coincidence

of Spengler's thinking with that of the Russian productivists. In order to defend his conjecture as to their coincidence, however, Tarabukin seeks to delineate a positive dimension to Spengler's theory of decline that would accord with the productivists' vision of the future. However much Spengler laments the coming to an end of western European culture (which he calls "Faustian" in order to emphasize the European "will" to transform and dominate nature), Tarabukin is eager to demonstrate that the German writer envisages not only a cultural future, but also a cultural future predicated upon an embrace of the machine. In order to do so, two critical interventions are required:

First, Tarabukin needs to dislodge the standard perception of Spengler as a cultural pessimist who predicts that the decline of the Faustian arts will necessarily lead to the extinction of human creativity altogether. Such overdetermination of Spengler's enterprise originated with the domestic reception of the first volume of *The Decline* in 1918, at the moment of Germany's military defeat and humiliation at Versailles, and is still in force in Russia in the early 1920s. "The question of Spengler's views on art . . . and its future role has already been raised several times in the Russian literature," Tarabukin acknowledges in his INKhUK paper, "but all these judgments, uttered by 'pure' aesthetes have [only] explained the cheerless prospects described by Spengler in his prognosis for the future."[52] Tarabukin's chief target in this regard is the young and "optimistic" art historian Viktor Lazarev, who in 1922 published a book-length study of Spengler's aesthetic concerns, *Oswald Spengler and His Views on Art (Osval'd Shpengler i ego vzgliady na iskusstvo)*.[53]

Tarabukin's problem with Lazarev and other Russian aestheticians is their dismissal of *The Decline* on the grounds that it is premised on an indefensible attitude of utter "hopelessness" (*OM,* 27 n. 1). Although Lazarev concedes that Spengler's "verdict on modern art" contains "significant truth," he nevertheless insists that the decline of the West is really far from "imminent" and that European culture continues to have tremendous vigor:

> We deeply believe in the vitality and power of European culture, at least for another century. . . . The hour when the setting sun of Europe will cast its last ray is still a long way off, and so, would it not be better to make good use of the achievements of western European culture rather than giving it a premature requiem for its proclaimed death?[54]

Tarabukin views Lazarev as but a custodian of aesthetic tradition, who overemphasizes Spengler's pessimism in order to avoid confronting the imminence of the degeneration of the traditional easel arts, which not only Spengler but also the productivists have proclaimed.

Spengler himself has sought to rectify his overdetermination as a pessimist, in a polemical reply to his critics entitled "Pessimism?" ("Pessimismus?," 1921), which appears in three different Russian translations in 1922.[55] This essay, Tarabukin argues, "casts a completely different light on the general tendency of [Spengler's] thinking with regard to the forms culture [will take] in the future."[56] In "Pessimism?," Spengler argues that if pessimism is

defined—as the idealist would define it—as the refutation of the notion of universal mankind—then he is indeed "a complete and utter pessimist" since it is his conviction that "mankind is a zoological entity" for which there is no "progress, goal, or path . . . no universal soul, still less a singularity of purpose, feeling, or idea." But if, as he himself defines it, "pessimism means to not have any more tasks to fulfill," then he is not at all a pessimist, since he sees "so many unfulfilled tasks that [he] is even anxious as to whether there will be enough time and people to carry them all out."[57]

Spengler's reference to these future (but as yet unnamed) tasks seems to have encouraged Tarabukin's conjecture about the coincidence of his thinking with that of the productivists. "The death of painting, the death of easel forms does not mean the death of art in general," Tarabukin writes in *From Easel to Machine*. "Art lives on, not as a specific form, but as a creative substance" (*OM*, 18). How, precisely? "In the future when, as a consequence of the increasing 'Americanization' of life, interest in pure art will have diminished, talented people will become practical workers instead of practitioners of pure art" (*OM*, 26). Spengler, Tarabukin continues, "advances the very same viewpoint" concerning the "disappearance of easel forms of art." Documenting their shared convictions on this score, Tarabukin strings together numerous quotations from Spengler's "Pessimism?" and *Philosophy of the Future* (*Filosofiia budushchego*, a separate Russian edition of most of Spengler's introduction to the first volume of *The Decline*):[58]

> "Epochs without genuine art and philosophy can nevertheless be great epochs." "Practical people, industrialists, organizers, and so forth write better, more soundly, more clearly, and more profoundly than the majority of literati who have transformed style into a sport." "If people of the new generation were to take up technics instead of the lyric, navigation instead of painting, politics instead of epistemology, then one could wish nothing better for them." "For the highly intellectual, startlingly clear forms of a speedboat, a steel works, or a machine, I am prepared to sacrifice all the stylized nonsense of contemporary applied art, along with painting and sculpture." "I believe that the touchstone for measuring the value of a thinker is the level, discovered by him, of his understanding of the great facts of our time." "This [understanding] opens up majestic horizons for people of action; of course, for romantics and idealists unable to conceive their relation to the world other than by composing verse and drawing pictures, it [reveals] a hopeless prospect." (*OM*, 27, quoting *P*, 29; *P*, 31 [with elisions]; *FB*, 38 [with elisions]; *FB*, 43; *P*, 28)

What especially fascinates Tarabukin is Spengler's proposal that the energy once reserved for easelism should now be redirected toward "practical useful action." Thus focusing on an aspect of Spengler's cultural prognosis ignored by Lazarev—the rise of technics in the reconfiguration of cultural activity—Tarabukin argues that Spengler is an advocate rather than an opponent of the machine who offers an "optimistic" rather than a pessimistic interpretation of western European cultural decline.

The second—and more difficult—intervention required of Tarabukin in order to sup-

port his coincidence theory is the dislodging of the standard perception of Spengler as a Luddite. In fact, the real key to understanding Tarabukin's recourse to Spengler lies in his analysis of where the German writer places technology within the dyadic structure of *Kultur* (culture) and *Zivilisation* (civilization) that drives *The Decline.* Spengler understands the interrelationship of culture and civilization in a periodic rather than ethical sense—as the expression of "a strict and necessary organic succession" (*DW,* I, 31). Civilization, he argues, is the decline that is the "inevitable destiny" of every culture: "Civilizations are the most external and artificial states of which a species of developed humanity is capable. They are a conclusion, the thing-become succeeding the thing-becoming, death following life, rigidity following expansion. . . . They are an end, irrevocable, yet by inward necessity reached again and again" (*DW,* I, 31). Western European culture entered the period of its civilization, its inevitable decline, he argues, at the beginning of the nineteenth century.[59]

Where does Spengler position technology within this dyadic structure of culture and civilization? In most contemporaneous commentaries on *The Decline,* Spengler is considered to have placed technology securely within the realm of civilization. This perception is based upon Spengler's condemnation of technological rationalism as Faustian culture's most hostile antagonist, a condemnation he shares with many conservative European intellectuals who lament the erosion of the traditional values of humanist culture by, as they see it, technology and industrialization. More recently, however, the historian Jeffrey Herf has sought to complicate this standard interpretation of *The Decline.* In contrast to most commentators, Herf argues that Spengler's ambition is to extract technology from the domain of civilization (rationalism, pure science, capital, internationalism) so as to recuperate it in the realm of culture (the soul, "creative" or applied science, nationalism).[60] Tarabukin's understanding of Spengler's views on technology similarly runs counter to the perception standard among his contemporaries.

In the two final chapters of the second volume of *The Decline*—titled "Money" and "Machine"—Spengler presents a "flying survey" of the morphology of economic life. ("Economic thought sets in," he writes, "only where art and philosophy have irrevocably passed away" [*DW,* II, 470].) These chapters quickly attract the attention of the Petrograd publisher Mysl'. In late 1922, German Genkel' translates both chapters for Mysl', which then issues them, in a sizable edition of five thousand, as a separate volume entitled *Money and Machine (Den'gi i mashina).*[61] Just as "Pessimism?" is an attempt to overturn the common characterization of Spengler's thinking as unrelentingly pessimistic, *Money and Machine* constitutes the strongest possible refutation of the popular perception of Spengler as antitechnological. It is this book that enables Tarabukin to sort out Spengler's positioning of technology within the dyadic structure of *The Decline* and thereby to substantiate his coincidence theory. Tarabukin evidently has it on his desk in the months before he sends *From Easel to Machine* to press, since his second string of citations from *The Decline* are all drawn from the Genkel' translation (although unacknowledged as such).

Money and Machine makes two important arguments apropos the place of technics in west-

ern European culture. The first is that technics must be rescued from its overdetermination in contemporary thought as a product of rationalism. The advent in the late eighteenth century of both the steam engine (a fundamentally transformative development) and rationalism as a philosophical system (*DiM*, 67; *DW*, II, 502) prompts "materialist thinkers" in the nineteenth century, Spengler regrets, to situate technics within the world of rational thought, in the mistaken belief that an essential and causal link exists between technology and rationalism. Spengler seeks to sever that link, suggesting instead that technics is as old as animate life itself (*DiM*, 61; *DW*, II, 499), that every culture has its own specific technics, and that technics was fundamental to Faustian culture before its descent into civilization.

Spengler draws a qualitative distinction between the technics of culture and that of civilization: in the realm of culture, technics is creative, active, and concrete (tied to a specific sensation or sense judgment); in the realm of civilization, it is intellectual, pure, and abstract (detached from any specific action or experience; *DiM*, 61–63; *DW*, II, 499–502). (The writer's general drift here is one of speech-act versus language system, praxis versus theory, applied versus pure science.) According to Spengler, the cause of the emancipation of thought from sensation—which he takes to be epochal, but negatively so—is the advent of language. When thought develops into theory, it becomes detached from the technics of the day; it becomes "a piece of waking-consciousness uncommitted to activity"—one knows what one desires, not as a result of the specific encounter at hand, but through repeated and thus accumulated experience. Spengler opposes such forms of knowledge. In his view, it is the Faustian soul, rather than rationalism, that is responsible for the extraordinary achievements of the second industrial revolution, as well as all later inventions. The modern preoccupation with flight, for example, is merely a return to the passions of that soul:

> That which the glowing and soaring inwardness of St. Bernard [of Clairvaux] sought at the beginning, that which Grünewald and Rembrandt conceived in their backgrounds, and Beethoven in the trans-earthly tones of his last quartets, comes back now in the intellectual intoxication of the inventions that crowd one upon another. (*DiM*, 67–68; *DW*, II, 503)

In other words, Grünewald, Rembrandt, Beethoven, and the modern engineer share the same Faustian soul.

Spengler's second argument in *Money and Machine* is that technics does not belong to capital, nor to capital's "political weapon," democracy; he warns that, in fact, capital threatens the future of the Faustian machine. Spengler thus puts into opposition two camps conventionally thought of as allied: industrialists and financiers. In order to do this, he returns to an opposition drawn in the chapter titled "Money," between the productive and acquisitive economies (that is, agriculture, which is tied to the earth, and trade, which is rootless and thus "parasitic"), to which he adds a third economy, the "preparatory economy" (manufacturing and processing industries).[62] In "Machine," this third economy is aligned with

the productive economy of agriculture, in opposition to the acquisitive economy of trade and finance. Spengler notes that the manufacturing industries, although originally but one small part of the larger category of manual labor, have actually come to dominate all other vocations, so that Faustian culture in general is governed by the "economy of the machine industry."

Production, Spengler claims, no longer depends on the peasant's hand, but on practical thought (which is distinct from theoretical abstraction)—that is, on the engineer's capacity to organize and orchestrate a "play of intellects in which hands are mere auxiliaries." "The peasant, the craftsman, even the merchant suddenly lose almost all their significance before the three figures *which the machine itself has nurtured . . . the entrepreneur, the engineer and the factory-worker*" (*DiM,* 69; *DW,* II, 504, original emphasis). But the future of the machine industry's productive economy, and of the machine itself—which Spengler believes will win the war against civilization and therefore give birth to a new culture—is now under threat, he argues, from two quarters: mysticism (antimachinism) and, much more profoundly, money (capital). The "ancient wrestle" between the productive and the acquisitive economies intensifies into the "despairing struggle of technical thought to maintain its liberty against money-thought." The machine, the "real queen" of the twentieth century, is in danger of succumbing to money (*DiM,* 72–73; *DW,* II, 506–07). *Money and Machine* concludes on this millenarian note, Spengler's eulogy to the machine instantiating the hope, only hinted at in the first volume of *The Decline,* that gifted people take up technics instead of the lyric. The modern engineer, whose intellect is rooted in practical action rather than theoretical abstraction, is catapulted into the position of the messiah of Faustian culture.

From Tarabukin's perspective, the views of Spengler and the productivists coincide in their mutual quest for a production-driven economy. But Spengler's assertion—in accordance with his view of Russia as other to the West—that the "Russian soul" is deeply antithetical to the machine ("the Russian looks with fear and hatred at this tyranny of wheels, cables and rails" [*DiM,* 70 n. 1; *DW,* II, 504 n. 1]), could only have reconfirmed for Tarabukin the necessity and radicality of the productivist platform: that it is the Constructivists' responsibility (as members of the radical intelligentsia) to overcome their compatriots' traditional aversion to the machine. Nevertheless, there still remains the fundamental ideological difference: Spengler is no productivist *sputnik.* Whereas Spengler's quest for technology's Faustian soul shifts the machine over *to* the realm of culture, the productivists seek to establish the realm of civilization—technological rationalism—*as* culture.

NONOBJECTIVITY: *URPHÄNOMEN* OF CONTEMPORARY CULTURE

In his reading of *Money and Machine,* Tarabukin ignores Spengler's anti-Marxist diatribes and infusion of the machine with a Faustian soul, in order to focus instead on the writer's

reflections upon the increasing intangibility or incorporeality of economic life: "High finance is," Spengler writes, "wholly intangible" *(ungreifbar) (DW,* II, 505; *DiM,* 72).[63] Significantly, Tarabukin interprets Spengler's negative concept of intangibility or incorporeality as "nonobjectivity" *(bespredmetnost')*, thereby inserting it within another discursive context—that of the Russian avant-garde, for whom "nonobjectivity" is a positive term signifying various modes of abstraction in the 1910s and early 1920s. Spengler has demonstrated, Tarabukin suggests, the ways in which the "nonobjectivity of contemporary culture" has been "revealed to us through nonobjective forms of art" (*OM,* 34). Such modes of artistic production are, in turn, associated with the critical work of the literary formalists: "Nonobjectivity in painting is . . . a method of 'laying bare the device,' to use the term of the 'OPOIAZists'" (*OM,* 33–34). For Tarabukin, nonobjectivity is the *Urphänomen*—in the Spenglerian sense—of contemporary culture: "nonobjectivity is symptomatic of the period in which we live; it is the essence of contemporary culture" (*OM,* 33).

The concept of the increasing intangibility or incorporeality of western European culture is introduced by Spengler in the first volume of *The Decline,* in a discussion of Impressionism. Acknowledging that the word "Impressionism" came into use only in the age of Manet, Spengler argues that it nevertheless summarizes well the "special quality" of Faustian easel painting since the Renaissance. Impressionism signifies

> the deeply-necessary tendency of a waking consciousness to feel pure endless space as *the* supreme and unqualified actuality, and all sense-images as [but] secondary and conditioned actualities "within it." . . . Impressionism is the inverse of the Euclidean world-feeling. It tries to get as far as possible from the language of plastic and as near as possible to that of music. The effect that is made upon us by things that receive and reflect light is made not because the things *are* there but as though they "in themselves" *are not* there. The things are not even bodies, but light-resistances in space, and their illusive density is to be unmasked by the brush-stroke. . . . [I]f there is one art that *must* exclude [Impressionism] on principle, it is Classical sculpture. . . . For the Impressionists, the end and the culmination of art was the conjuring up of a world in space out of strokes and patches of colour. . . . Everything merges in bodiless infinity. (*DW,* I, 285–86, 292, original emphasis)

According to Spengler, the decline of Faustian culture into Impressionism began with Leonardo and Giorgione, with whom

> the technique of oils [became] the basis of an art that [meant] to conquer *space* and to dissolve things in that space. . . . While Michelangelo tried to force the whole meaning of human existence into the language of the living body, Leonardo's studies show the exact opposite. His much-admired *sfumato* is the first sign of the repudiation of corporeal bounds, in the name of *space,* and as such it is the starting-point of Impressionism. Leonardo begins with the inside . . . and when he ends . . . the substance of colour lies like a mere breathing over the real structure of the picture, which is something incorporeal and indescribable. . . . *Leonardo discovered the circulation of the blood.* . . . Leonardo investigated the life in the body . . . and not the body-in-

itself as Signorelli did. . . . [Leonardo's] discovery . . . signif[ies] the victory of the infinite over the material limitedness of the tangibly present. (*DW,* I, 239, 277–78, original emphasis)

The qualities Spengler associates with Impressionism are manifest not only in the visual arts, "but in a thousand other ways as well": Impressionism "is the comprehensive expression of a world-feeling, and it must obviously therefore permeate the whole physiognomy of our 'Late' [i.e., declining] Culture" (*DW,* I, 285–86).

At no point in his discussion of the incorporeality of economic life in the final two chapters of the second volume of *The Decline,* however, does Spengler refer to or otherwise recall his discussion of Impressionism. But these early passages on Impressionism underwrite Tarabukin's major focus on Spengler's discussion of the incorporeality of economic life. Tarabukin introduces a long string of quotations from the second volume of *The Decline,* all drawn from the Genkel' translation. Each quotation pertains to the "world-life of economy" and circulates around the notion of the dissolution of the integral object in the Faustian drive for infinitude:

"The world of classical economy is divided into material and form." "The world of our economy is divided into power and mass." In contemporary economic conditions, "coal is not an object but the richest supply of energy." "The concept of form [*sic*] is theorized as a completely impersonal and incorporeal center of force, whose influence radiates out to infinity." "The peasant, the craftsman, even the merchant," who operate with specific concrete objects or goods, "lose almost all their significance before the three figures which the machine itself has nurtured; these figures are the entrepreneur, the engineer and the factory worker" who handle money, thought and energy. "The engineer is the farthest from Roman legal thinking, and he will ensure that his economy will secure its own law, in which forces and their manifestations will take the place of personality and the object." (*OM,* 34, quoting *DiM,* 51 [with elisions]; *DiM,* 56 [with elisions]; *DiM,* 57 [with elisions and modifications]; *DiM,* 69 [with elisions]; *DiM,* 71 [with modifications])

Given that Spengler does not connect his reflections on economy with recent artistic practice, how does Tarabukin defend his claim that the German writer has demonstrated the ways in which nonobjective forms of art have revealed the nonobjectivity of contemporary culture? In positing nonobjectivity as *Urphänomen,* Tarabukin draws upon another fundamental opposition within *The Decline:* the antithesis of concrete experience (which marks culture) and abstract thinking (which characterizes civilization). In *Money and Machine,* this general antithesis inflects that of the productive and acquisitive economies, as noted above. It is also mapped over the two most significant new developments of Faustian civilization—namely, high finance and machine industry, both of which share the same tendency toward abstraction, incorporeality, and dematerialization. Capital is abstract: because it is not rooted in the land, it transforms objects and money from concrete entities into abstract functions. (Spengler's argument here is analogous to his earlier comparison of the modern numeration system of algebra with the ancient concrete number system, a comparison that is to have

tremendous importance for Lissitzky, as Nisbet and Bois have shown.) But modern machines are also abstract, Spengler suggests, to the extent that they weave "an infinite web of subtle forces, currents and tensions" over the earth, their own "bodies become more and more immaterial," "their rollers, wheels and levers no longer speak." The minds of the organizer, the manager, and, above all, the engineer hold production together; the worker's hand becomes merely auxiliary, and force and efficiency replace both producer and produced (*DiM,* 68–71; *DW,* II, 504–05).

Thus, capital and the machine turn labor into pure process. Unlike the weaver at the hand loom, the mass-production worker no longer sees the consequences of his or her labor. Spengler dismisses Adam Smith's labor theory of value (wherein the value of an object is measured by the amount of labor expended on its production). Smith, Spengler claims, understands work only in terms of its result—something that is made and that has tangible, physical existence in the world. (Spengler also incorrectly lumps Marx together with Smith on this front.) In modern mass production, Spengler counters, work is a *process* within a complex of such processes, a kind of "working" that in its internal worth, intensity, and significance is endlessly varied, and that, like electricity, can be measured but never delimited. Within mass production, the work of individuals does not "add up" in a Euclidean sense, but exists instead in an interdependent functional relationship (*DiM,* 53–54; *DW,* II, 491–92). Notwithstanding the dematerializing tendencies it shares with capital, however, the machine is redeemed in the end by the fact that "industry remains [ultimately] earthbound." Its raw materials are drawn "from the earth" (mining is Spengler's industrial paradigm). Despite its tendency toward dematerialization (of itself, of labor), the machine retains this fundamental connection with the land, and thus, for Spengler, with a nationalistically inscribed corporeality. By contrast, high finance (capital) is abstracted from the land, "wholly intangible," and thus of the greatest detriment to such corporeality. Nothing but "blood"—the most fundamental "corporealization" of a culture's soul—can stop capital (*DiM,* 72–74; *DW,* II, 505–07).

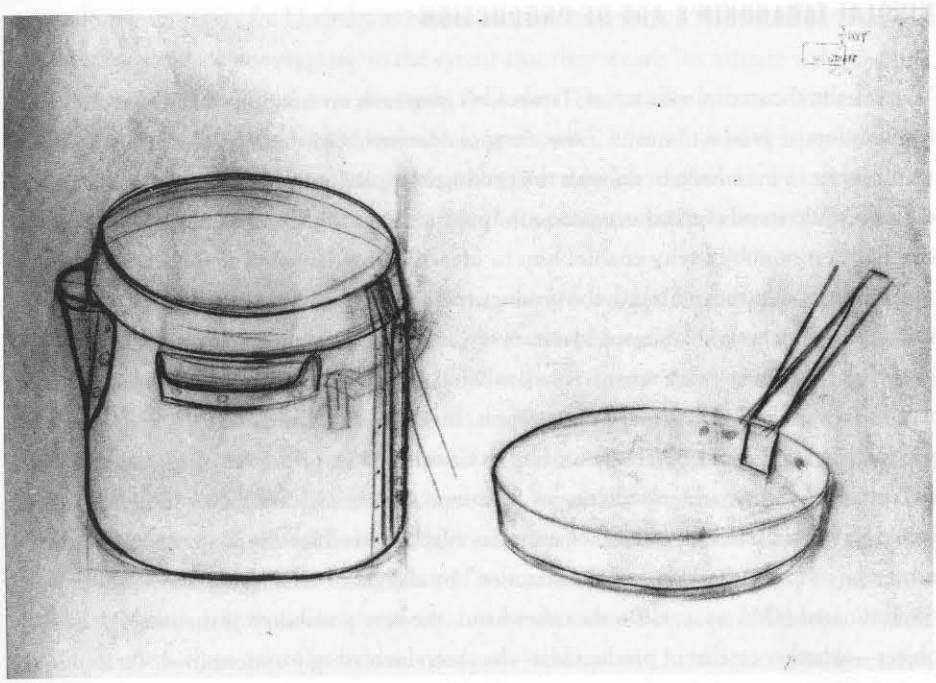
However much Tarabukin may have been dazzled by the rhetorical charge of Spengler's morphology of economic life, he flattens Spengler's polemic by ignoring its nationalist and racist underpinnings. Most particularly, he suppresses the negative cast that Spengler gives to the process of dematerialization, to which private finance and, to a lesser extent, the machine have subjected Faustian culture. Instead, Tarabukin champions Spengler's portrait of contemporary culture in terms of dematerialization and nonobjectivity—so much so that he makes a very revealing miscitation from *Money and Machine.* In the quote "The concept of form [*sic*] is theorized as a completely impersonal and incorporeal center of force, whose influence radiates out to infinity," Tarabukin replaces Spengler's "concept of the 'firm'" (*Begriff der "Firma"; poniatie "firmy"* in the Genkel' translation) with "concept of form" *(poniatie formy),* which is far better suited to his own purposes—to grant to nonobjective art the status of contemporary culture's *Urphänomen.*

NIKOLAI TARABUKIN'S ART OF PRODUCTION

What is the theoretical efficacy of Tarabukin's emphasis on nonobjectivity in terms of his formulation of productivism in *From Easel to Machine?* On the face of it, nonobjectivity would seem to have little to do with the productivist platform, insofar as the latter is most typically understood as an exhortation to the production of utilitarian objects. But Tarabukin's emphasis on nonobjectivity enables him to identify a fundamental tension at the heart of that platform: On the one hand, the productivists seek to remake the conditions of daily existence. Having been abandoned by art, everyday life is, Tarabukin regrets, "filled with objects that are ugly in every sense." Russians "live surrounded by objects that are inconvenient in form, false in their usage of materials, inexpedient in function." In their stead, the productivists will create objects according to Constructivist principles of formal and material integrity, clarity, and expediency of function. Aesthetic satisfaction will henceforth be found in the practical experience of everyday life; the need for the "narcosis" provided by museums or for one's pleasurable "distraction" by objects of rare beauty and virtuosity will be eliminated (*OM,* 23, 37). On the other hand, the very possibility of the integral, discrete object—whether easelist or productivist—has been increasingly undermined, Tarabukin argues, by the advent of electricity, modern physics (Einstein's theory of relativity), and especially the new technologies of mass production. These are the contemporary historical conditions for which nonobjectivity is, the critic suggests, the *Urphänomen.* Tarabukin does not seek to trace a straightforward shift from the easelist to the productivist object, but rather attempts to grapple with the fact that the terms and conditions of industrial modernity reconfigure not only the producer's relation to the object, but also the formal integrity of the object itself. The millenarian iconoclasm of *From Easel to Machine* thus extends beyond the death of painting to the death of the object's integral self-sufficiency—what Tarabukin calls its "formal conception" (*OM,* 33). In that sense, *Pure Red Color* represents, therefore, not simply "the last picture," but also *the last object.*

Taking up Kushner's insistence that "the theory of production art must be built upon the basis of mass production,"[64] Tarabukin argues that the greatest obstacle to the forging of a new material culture—an authentic, posteaselist art of production—is the Constructivists' refusal to relinquish the traditional concept of the discrete object. The contemporary artist, "abandoning the easel . . . at which . . . he has made 'artistic' objects" and "deciding . . . to take up a position at the factory bench in order to produce utilitarian objects," has not yet understood how deeply conservative this revolutionary gesture actually is—conservative because the notion of the object that he brings to the bench is still derived, in fact, from the easel.

As an example, Tarabukin cites Tatlin's honorable declaration "that he would no longer make useless 'counter-reliefs' but apply himself to the manufacture of useful 'saucepans'" (fig. 77). But, in so doing, the critic argues, Tatlin remains a "handicraftsman": "any work



77 Vladimir Tatlin. *Design for Multi-Purpose Metal Dish: Pot + Teapot + Frying Pan.* 1923. Pencil on paper. 56.8 × 77 cm. A.A. Bakhrushin State Central Theater Museum, Moscow. Photograph courtesy of A.A. Bakhrushin State Central Theater Museum, Moscow.

created by [the artist] is harmoniously worked with his hands and constitutes a unique object." The full mechanization of production erases this hand—the last trace of the defunct culture of easelism—not only in the sense of eliminating manual production, but also by destroying the conception of the hand as the manifestation of individual judgment. By virtue of the backward "technology of his production,"[65] the Constructivist—and here Tatlin is categorized as such—unwittingly transfers his "'handicraft' notion of the 'object' to the context of large-scale industry at the very moment when that industry is destroying altogether the notion of the 'object'" (*OM,* 27–28).

Tarabukin thus foregrounds a central paradox—for the Constructivist—of mass production: the more technologically advanced the process of the object's production, the less corporeal, tangible, and objectlike that object, in fact, becomes. Three factors, he argues, account for the object's vanishing act under contemporary conditions of production. First, the integral object "disappears" because of the way in which mass production is organized: "Various production processes are necessarily involved in the manufacture of any finished product. The object [thus] loses any individualization in the process of its production. A large collective contributes to its creation" (*OM,* 30). (Here, the rhetoric of the collective displaces

the critic's earlier concern for the worker's concomitant alienation from the product of his or her labor.)

A second cause of the object's disappearance results from the profound impact mass production has upon traditional patterns of consumption. Its seemingly infinite capacity to reproduce in standardized form factors into the object a new principle—that of rapid obsolescence—by which the object loses altogether any resistance to temporal finitude that it may once have had:

> Mass production cancels out the [hitherto established] conception of the object; it brings about an extreme reduction of the period of its utilization to a single act of consumption. Transformed from an object intended for a significant period of usage into an object . . . produced for single use only, transformed from a solid "elephant" into an "ephemera," the object loses its fundamental character. (*OM*, 30)

Within the context of a culture historically plagued by material scarcity, the principle of rapid obsolescence signifies not only an increase in the potential quantity of a particular object, but also the transformation of that object's fundamental identity.

The third cause of the object's vanishing provides the key to Tarabukin's problematization of the productivist object:

> Many modern products are no longer objects as such. Instead, they are either complexes of a number of objects that are linked inseparably in the process of consumption and thereby form a system, or they represent a kind of noncorporeal energy. Such is, for example, the use of electrical energy, which is itself an intricate system of installations from which is derived a number of "utilities" *["poleznostei"]* in the form of light, heat, moving force, and so forth. Thus we arrive at a new concept, unknown in the conditions of a less-developed material culture—namely, that of "installations" *["ustanovok"]*. (*OM*, 30)

In the material culture of the future, Tarabukin prophecies, the "modern product" will take the form not of an integral object, but of an installation—a system or network of interrelated components. The precise form the productivist "installation" will take—whether apparatus, device, mechanism, or plant (the Russian word *ustanovka* encompasses all of these[66])—will be less important than the relationality of its functioning. In this regard, Tarabukin's example of electricity is paradigmatic. Just as the functioning of the components that produce electrical energy—turbogenerators, transformers, transmission wires, control and distribution circuits—is fully interdependent, the logic of any installation is fully relational: if one component is removed or altered in any way, this produces compensatory changes in the overall system. The concept of the installation thus encapsulates Tarabukin's own definition of the principle of construction: "a complex of elements unified in a single whole according to a definite principle, and which, in their unity, constitute a system" (*OM*, 13).

Tarabukin's reference to electricity is not random, since it is the electrification of industrial sites that enables their conversion to full mechanization. But the significance of electrification in the early 1920s is more than narrowly technical—it is, in fact, the technological discourse most privileged by the Bolsheviks as the immediately feasible architecture of communism, as Lenin's famous equation "Communism = Soviet power + the electrification of the entire country" suggests. By placing quotation marks around the word "installation," Tarabukin marks the advent within productivist theory of a concept derived, via Kushner, from the discourse of electrotechnology (*OM,* 30 n. 1).[67] Just prior to joining the INKhUK, Kushner served in the Electrotechnical Section of Vesenkha and had contributed to the Bolsheviks' controversial 1920–21 State Commission for the Electrification of Russia (Gosudarstvennaia komissiia po elektrifikatsii Rossii; GOELRO).[68] In a run of lectures delivered at the INKhUK in March 1922, Kushner presented the argument that, in the new material culture of communism, the concept of the installation—or rather, of a system of installations—would eventually come to replace that of the object.[69] Kushner further develops his argument in a curriculum for a course of seventeen lectures to be read at the VKhUTEMAS during 1922–23, in which Kushner defines the "rudiments of communist culture" in terms of the destruction of the concept of the object, the functional integration of objects, and the introduction of the concept of installation into mass production.[70]

Having drawn upon Kushner's ideas in positing the installation rather than the object as the appropriate goal of productivist ambition, Tarabukin goes on to theorize the role of the Constructivist in production not as a "designer" of utilitarian objects—such as Tatlin and others propose—but rather as the engineer of production itself:

> If everything I have said about modern production's tendency to destroy our formal conception of the object is to be taken into account, then the artist-producer in production is called upon, first of all, to design the process aspects of production. For the worker in production, the process of production itself—which is but the means of the object's manufacture—becomes the goal of his activity. (*OM,* 33)

Tarabukin's formulation of the problem of production in terms of process reintroduces into the heart of productivist theory the OPOIAZ formalist Viktor Shklovsky's argument that "art is a means by which to experience the making of an object; in art what is made is not important."[71] This cardinal maxim of early formalism underpins Tarabukin's insistence in *From Easel to Machine* that "neither ideology . . . nor form in itself, nor material . . . constitutes specifically the sign that defines art as a creative category *sui generis.* That sign, which reveals the essence of art, lies only in the process itself of work" (*OM,* 21). Some pages later, Tarabukin reiterates his emphasis on process, but specifically within the terms of the *Urphänomen* of contemporary culture: "Nonobjectivity is inherent in the process of any work insofar as the artist works with the material and methods of production, for the essence of any process is nonobjective" (*OM,* 33). Its tautological nature aside, this last statement sug-

gests not only that, for Tarabukin, nonobjectivity—as dematerializing process rather than integral product—encapsulates the new art of production sufficiently to be considered the *Urphänomen* of contemporary culture, but also that it simultaneously transcends its contemporary specificity: "Nonobjectivity is inherent in the process of *any* work."

Tarabukin's invocation of a right-wing, manifestly anti-Bolshevik German ideologue in *From Easel to Machine* is thus motivated by something more than a polemic with Russian aestheticians such as Lazarev. Tarabukin uses Spengler in order to gain a measure of critical distance from the productivist platform as it is most typically theorized within the INKhUK—as the production of utilitarian objects. Spengler enables Tarabukin to formulate and defend, instead, a theorization of the Constructivist's role in production in terms of a direct confrontation with the central paradox of industrial modernity—the loss of the discrete object. In place of the object, Tarabukin hypostatizes the "laying bare" of the process of production itself as the essence of the Constructivist's future endeavor. It is in part the lessons of the OPOIAZ that drive Tarabukin's recourse to Spengler in support of his particular and dissenting formulation of productivist theory. What better way for the critic to disguise his return to formalism—at the very moment of the INKhUK's en masse rejection of the analytical necrosis of modernism—than to bury it within a miscitation of Spengler: "The concept of form [*sic*] is theorized as a completely impersonal and incorporeal center of force, whose influence radiates out to infinity."

78 Krasnyi Prokatchik (street frontage), 1932. From the Bakunina *rulon* preserved at the Directorate of the State Inspectorate for the Preservation and Usage of Historical and Cultural Monuments, Moscow, f. 87/3. Photograph courtesy of the Directorate of the State Inspectorate for the Preservation and Usage of Historical and Cultural Monuments, Moscow.

5

Red Technics

THE *KONSTRUKTOR* IN PRODUCTION

> The use and construction of instruments of labour, although existing in the germ among certain species of animals, is characteristic of the specifically human labour process, and [Benjamin] Franklin therefore defines man as a "tool-making animal." Relics of bygone instruments of labour possess the same importance for the investigation of extinct economic formations of society, as do fossil bones for the determination of extinct species of animals. It is not what is made but how, and by what instruments of labour, that distinguishes different economic epochs.
>
> KARL MARX, *Capital: A Critique of Political Economy* (1867)

> One can define the artist-producer as an animal, consciously striving to create ever-more advanced tools.
>
> NIKOLAI TARABUKIN, *From Easel to Machine* (1923)

THE ARCHAEOLOGY OF AN EXPERIMENT

Despite the forcefulness of the INKhUK's exhortation to the artist to enter production *("V proizvodstvo!")*, and the assiduousness with which its members try to theorize precisely how to do so, only a few Constructivists will reach their chosen mecca. In an article published in *Lef* in early 1924, Osip Brik presents a brief overview of the state of the field: Among the "still not very numerous" artists who have taken up the productivist platform, he includes "the INKhUK members—Rodchenko, Lavinskii, Vesnin, Stepanova, Ioganson, Sen'kin, Klucis, and Liubov' Popova." As to the concrete realization of their platform in the industrial environment, Brik mentions only the textile-design work of Varvara Stepanova and Popova at Moscow's First State Cotton-Printing Factory (Pervaia gosudarstvennaia sittsenabivnaia fabrika; formerly Tsindel'). In fact, insofar as he describes the

latter as a "first experiment," he implies that it is the only such example to date, though this does nothing to diminish his enthusiasm for it: "it is essential to speak of [this experiment's] immense cultural value. The artistic culture of the future is being created in factories and plants, not in attic studios. May the young artists remember this—unless they wish to turn up prematurely in the archives, together with the proud easel painters."[1] As tantalizing or threatening as Brik's prognosis may be, the existing literature on Constructivism has shed very little light on the "culture of the future . . . being created in factories and plants" in the mid-1920s in Soviet Russia. Even in the most comprehensive study of Constructivism published to date—an account devoted to detailing its productivist turn—Christina Lodder regrets that "as far as is known only Tatlin, Stepanova and Popova did actually attempt to work in specific factories and to put their ideas concerning the role of the artist-constructor into practical operation."[2]

In this final chapter, I would like to offer a substantial expansion of our existing knowledge and understanding of Constructivism's instantiation in the industrial environment by presenting a case study of Karl Ioganson's work at a metalworking factory called Prokatchik (Roller; later Krasnyi Prokatchik, or Red Roller) between 1923 and 1926. It is worth noting that there is more than a little irony in the fact that the INKhUK Constructivist who spends the most time in the industrial environment is precisely the one about whom the published historical record—beginning with Brik's 1924 *Lef* article—has been the most recalcitrant. Ioganson's employ at Prokatchik is mentioned in passing in Selim Khan-Magomedov's 1980 discussion of the artist, but until now nothing more has been known about this major episode in Ioganson's life and work as a posteaselist *konstruktor.*[3] My account of this episode draws upon documents preserved in disparate state archives and private collections in the former Soviet Union.[4] Notwithstanding Brik's warning to young artists—that those who refuse the productivist platform will find themselves prematurely consigned to the archives—it is perhaps rather the Constructivist in production who has most enjoyed, if that is the right word, this particular fate. That this material has not previously been brought to light has to do, at least in part, with the very structure of the Soviet archival apparatus. The classification of the histories of art, industry, and labor as discrete, mutually exclusive fields of research served until perestroika to confine archival research within traditional disciplinary boundaries. When the subject happened to be Constructivism, a movement that contests the division of labor, the force of this restriction was not only paradoxical but also obfuscatory. The post-Soviet period's more flexible system of archival access has enabled a different kind of scholarly research to take place.

The present chapter seeks to provide an answer, in unprecedented detail, to the following question: What happens when a Constructivist finally *reaches* the place of his or her aspirations? What happens, that is to say, when a Constructivist manages to enter the industrial environment, rather than simply express a utopian desire to do so? Through an archaeological expansion of our received history of the industrial instantiation of Constructivism, this chapter seeks to make two critical arguments. The first of these is that the story

of Ioganson at Prokatchik provides evidence for the existence of an alternate trajectory within the INKhUK's productivist shift. One of the few art historians to have grappled with the artist's posteaselist history is Hubertus Gassner. In the context of a brief but suggestive discussion of Ioganson's spatial constructions, Gassner claims that the Constructivist later works in a rolling mill "not as an ordinary technician but as an 'inventor' of design methods which he tried to translate from his sculptures to the construction of *utilitarian objects*."[5] While his formulation is a little obscure, Gassner seems to propose that Ioganson is involved in product design—the invention of new industrial prototypes for objects used in everyday life. This proposal would situate Ioganson's posteaselist endeavors comfortably within what I have been calling productivism's mainstream trajectory—its orientation toward the Constructivist fashioning of specific objects. But this is not where his endeavors belong.

In contrast to Gassner, I will argue that Ioganson's work at Prokatchik—where he is first "inventor at the bench," then "party agitator" and "production organizer"—has to do not with the design of utilitarian objects, but rather with the invention of new apparatuses and systems of production itself. The thrust of his ambition in the factory is thus the very process of production—specifically, its tools and organization—more than its issue. As the evidence presented in this chapter will demonstrate, Ioganson's ambition in the metalworking industry therefore departs dramatically from the kind of model offered by Vladimir Tatlin's involvement in the same domain of production. (As the reader will recall, Tatlin's endeavors in the metalworking industry are polemically rejected by Tarabukin in *From Easel to Machine* as noble in their revolutionary intent but backward vis-à-vis contemporary conditions of industrial production.)

In the constitution of his ambition, Ioganson seems to have grasped not only the paradox of industrial modernity—that mass production destroys the formal integrity of the specific object (which, as we saw in the preceding chapter, Tarabukin endeavors to explicate)—but also that this paradox has profound import for any definition of the Constructivist in production. As Tarabukin puts it, if one takes into account this paradox, then "the artist-producer in production is called upon, in the first instance, to design the process aspects of production. For the worker in production, the process of production itself—which is but the means of the object's manufacture—becomes the goal of his activity."[6]

In recalling Tarabukin here, I do not mean to infer that Ioganson has set about responding point-for-point to the theoretician's call. Rather, I would propose that across their numerous differences and respective domains, these two members of the INKhUK each formulate—more or less contemporaneously—models of the Constructivist in production that share a number of crucial features. The extent to which their parallel formulations are indebted to each other, whether through the process of exchange promoted by the INKhUK in its capacity as a research circle or by some other means, is not my immediate concern. But I do want to emphasize that both seem to have theorized the INKhUK's productivist platform—its pursuit of *proizvodstvennoe iskusstvo*—as fundamentally a matter of the *art* of production rather than of the designing of industrial prototypes. In doing so, each contributes to

what I characterize in this book as a partially *dissenting* position—an alternate, if previously unremarked, trajectory—within the history of Moscow Constructivism's productivist turn.

My second argument is that Ioganson's Prokatchik story brings to the surface for the first time the existence of a profound contradiction at the heart of Constructivist theory in praxis: on the one hand, its desire to address the Marxist problematic of the alienation of labor and, on the other, its submission to the mainstream Bolshevik policy of economic rationalization. During the discussion following Stepanova's December 1921 INKhUK lecture, V. Khrakovskii reiterates one of Constructivism's most fundamental tenets—the dissolution of the division of labor. "Constructivism sprang from the desire," he reminds his colleagues, "to make workers into artists who actively create their product, to turn the *mechanistically* working human, the working force, into *creative* workers."[7] Khrakovskii here specifies one of the forms of the division of labor that the INKhUK hopes to overturn—namely, the manufacturing division of labor. Like the related concepts of the social division of labor and the division of mental and manual labor, this concept is drawn from Marxism, wherein it is identified and analyzed as one of capital's earliest and most innovative principles for the exploitation of labor.

The manufacturing division of labor refers to the breakdown of the various processes involved in the making of a product, into manifold but mutually exclusive operations performed by different workers. (In premanufacturing modes of production, by contrast, the worker completes one task, then moves on to another, and yet another, each task contributing cumulatively to the making of a single object.) This division, which under capital is planned and imposed by management, serves to increase the productivity of labor since the endless repetition of a single task by individual workers vastly accelerates the pace of overall production. Any increase in the mechanization of production results in labor's further division.

While the division of labor increases productivity and thus profit, from a Marxist perspective its net effect on the worker is to render him or her incapable of carrying through a production process in its entirety (where once the worker had the knowledge and expertise to produce an object from start to finish, now he or she knows only how to execute a single task within that process). As a consequence, the worker experiences the alienation of his or her labor (what was once a creative, allover process is now fragmented, repetitive, and mechanistic).[8] Khrakovskii refers to this process of alienation, and its proposed dissolution by the INKhUK Constructivists, when he speaks of Constructivism turning "the *mechanistically* working human . . . into *creative* workers."

The legacy of this division of labor in contemporary Russian artistic industry *(khudozhestvennaia promyshlennost')* and applied art *(prikladnichestvo)* is to blame for the way in which daily life is filled with, as Tarabukin writes, "objects that are ugly in every sense"—that is, "inconvenient in form, false in their usage of materials, [and] inexpedient in [their] function."[9] As examples of this, Brik cites cigarette cases embossed with the three horsemen of Viktor Vasnetsov, inkwells in the shape of elephants, pepper mills in the form of naked

women, and plates decorated with portraits of famous personages or Italian landscapes. Such objects, Brik argues, are the direct and unfortunate consequence of the fact that not only the worker who makes the object, but also the applied artist who ornaments it, is alienated from his or her potential creativity: the worker's creativity is curtailed by having to invest his or her labor in the mechanistic, repetitious, routinized production of an object, unaware of its overall scheme; the creativity of the artist is curtailed by virtue of his or her labor being confined to the realm of decorative afterthought.[10] The chief problem is that the applied artist's work is not a "constitutive and essential part of the production process."[11]

In place of applied art, riven as it is by the manufacturing division of labor, Brik proposes what he calls "artistic production" *(khudozhestvennoe proizvodstvo)*, which is basically an early appellation for production art:

> By artistic production, we simply mean a conscious, creative relation to the production process. We desire that every worker, in giving an object a particular form and color, will have understood precisely why this form and this color are necessary. We desire that the worker cease being the mechanistic executor of a design unknown to him. The worker must become a conscious, active participant. . . . In this way, artistry *[khudozhestvennost']* will be instilled into the very production of the object.

The promise of the new artistic production is thus twofold: it will not only lead to utilitarian objects having formal, material, and functional expediency, but it will also assist in the dissolution of the division of labor—Russian factories will become, henceforth, the "instruments of collective creativity."[12]

For the Constructivist who ventures into industrial production, however, the historical materialist's theoretical imperative concerning the dissolution of the division of labor is confronted with the full force of the new government's economic imperative—the raising of labor productivity—a policy put in place chiefly to counter the devastation of Russia's industrial infrastructure during years of war and revolution. The chronically low productivity of Russian factories is blamed by the party and government and industry officials not only on the deplorable state of many factory shop floors, with their outdated and inefficient equipment, however, but also on the primitive or backward organization of production (such as the vesting of authority in foremen whose actions were often unpredictable, even arbitrary).

How to resolve the problem of poor productivity is a controversial issue in the early 1920s. Two main positions emerge within the Russian Communist Party (Rossiiskaia Kommunisticheskaia partiia [bol'shevikov]; RKP[b]). The so-called party productivists (not to be confused with our productivists) seek to overcome low labor productivity by implementing, across the board, a machine-like approach to industrial organization, in which each worker would perform a specialized function within the collective effort.[13] The pedigree for the party productivists' position is impeccable: In his 1918 declaration "The Immediate Tasks of the Soviet Government," Lenin called for the "raising of the productivity of labor," singling out the "intensity of labor" as one of the areas in which "the situation is particularly bad" and

79 "Training in hammering," from "The Russian Central Institute of Work and Its Methods and Means for Training Workers," *Management Engineering: The Journal of Production* (New York) 4, no. 4 (April 1923), 243. This photograph documents a typical training exercise at TsIT—in this case, a worker being instructed by a mannikin in the art of hammering. The mannikin's two left arms demonstrate the correct (i.e., the most efficient) posture of the arm relative to the body at the start and conclusion of its swing. Mannikins, templates, jigs, training frames, and photo-cyclograms are often used at TsIT in the instruction of unskilled workers in correct body postures and work-motions. Photograph courtesy of Wirtz Labor Library, Washington, D.C.

in need of massive improvement. Revoking his earlier hostility to western scientific management, Lenin proposes debate on the "application . . . of what is scientific and progressive in the 'Taylor system,' which he describes as "the combination of the refined brutality of bourgeois exploitation and a number of the greatest scientific achievements in the field of analyzing mechanical motions during work, the elimination of superfluous and awkward motions, the elaboration of correct methods of work."[14]

Following Lenin, party productivists advocate a policy known as the Scientific Organization of Labor (Nauchnaia organizatsiia truda; NOT). Drawing explicitly upon the work of F. W. Taylor, Henry Ford, and Frank and Lillian Gilbreth, the NOT is essentially a Soviet repackaging of western scientific management, less the "exploitation." In the early 1920s, one of the chief places of its elaboration in the Soviet Union is the Central Institute of Labor (Tsentral'nyi institut truda; TsIT) in Moscow (see fig. 79), which is directed by the poet-turned-metalcutter-turned-social engineer Aleksei Gastev.[15] Fierce opposition to the NOT and TsIT comes from the party radicals, however, who criticize both for failing to attend to the problem of the alienation of labor in production.[16] The party productivists' general pitch—that under *socialist* relations of production, the kind of exploitation associated with scientific management in western Europe and the United States would not obtain—does not pass muster with party radicals, for whom *any intensification of labor necessarily means its increased division.*

Insofar as the INKhUK's exhortation to artists to enter production is a means by which it seeks to address the alienation of labor, the platform of its productivists is closer to that of party radicals than that of party productivists. In one of his March 1922 INKhUK lectures, for example, Boris Kushner expresses his skepticism about Taylorism in the form of a series of sarcastic remarks about the category of the "engineer-organizer." Yet there are also definite areas of overlap between the INKhUK and the party productivists. In *From Easel to Machine,* for example, Tarabukin foregrounds the productivist territory INKhUK shares with the NOT. Unlike Kushner, Tarabukin is a NOT enthusiast, informing his readers about the plethora of foreign and Russian institutions and publications devoted to the theory and practice of the NOT, and even writing a prospectus for "NOUT"—that is, the scientific organization of *intellectual* labor.[17] Which of these positions does Ioganson assume as a Constructivist in production? That of the party productivists, who seek productivity at any cost, or that of the radicals, who seek to protect supposedly emancipated labor from its reexploitation?

IN THE INSTITUTE / AT THE FACTORY

On February 1, 1924, Aleksei Babichev announces to his colleagues at the INKhUK that Ioganson "has been working in the 'Prokatchik' factory for a long time already *[uzhe davno].*"[18]

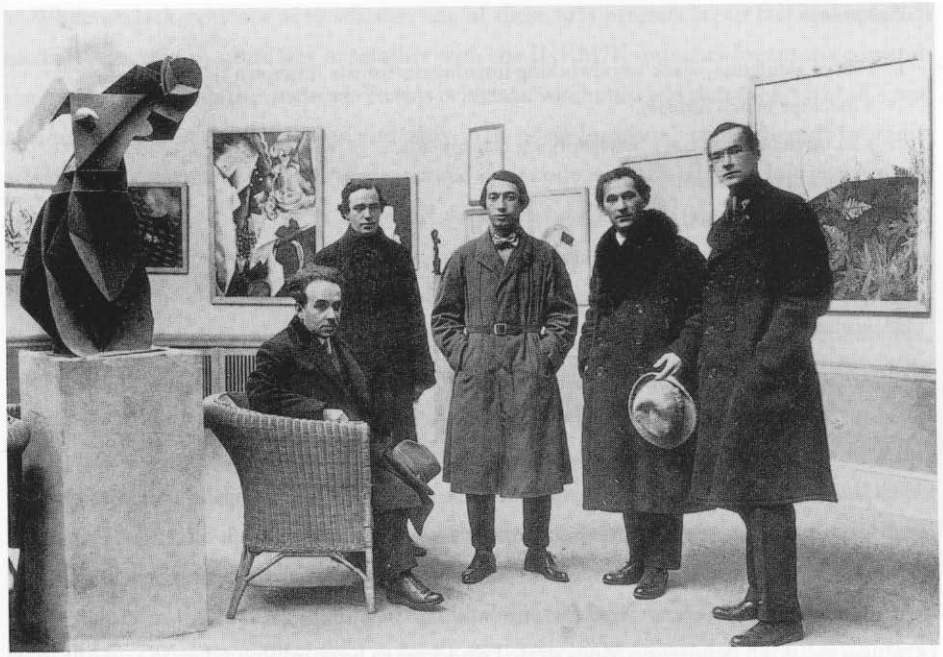
Hitherto, Babichev's comment has been the single piece of evidence linking Ioganson to this factory. A number of questions immediately arise: How long is "a long time"? Does Ioganson's employ at Prokatchik imply that sometime prior to 1924 he abandoned the Constructivist enterprise, left the INKhUK, and disappeared? That he had—in the words of his Latvian friend and former colleague Konrad Ubans—"gone crazy with the Russians" (read, "Bolsheviks")?[19] It is now evident, however, that Ioganson did not leave the INKhUK in order to work at Prokatchik, but rather that he remained a member of the institute until its closure in early February 1924 while simultaneously being employed in the factory.

In a letter to his family on January 15, 1923, Ioganson expresses considerable satisfaction with his current situation and appears optimistic about his future as an artist: "As far as art is concerned, I am to a significant extent 'in the lead' in Moscow; I'm 'at the top of the mountain'—I'm on the agenda."[20] Among the possible reasons for such brimming confidence is the success of the *Erste Russische Kunstausstellung,* held at the Galerie Van Diemen in Berlin in fall 1922. Nine works by Ioganson were included in this first post–Western Blockade showcase exhibition of the "new Russian art" (fig. 80). Just a month or so before writing to his family, on December 1, 1922, Ioganson went to hear David Shterenberg (the head of IZO Narkompros) report to the INKhUK on the installation and reception of the exhibition.[21] Shterenberg reported that the exhibition had been well received in Berlin, despite the initial opposition of the German authorities, who viewed it, not incorrectly, as an incitation to revolution. The art and architectural critic Adolf Behne, for example, raved about the Constructivists' triumph over the image:

> The Russian exhibit . . . provides an excellent documentation of the transcendence of the image. That Kandinsky's paintings have been hung on the final wall is probably a concession to (mistaken) German exhibits of modern Russian art. In no sense is Kandinsky's abstract canvas the last word in Russian painting. The leading role has not been played by Kandinsky, still less by Chagall . . . but by the Constructivists. . . . This exhibit [is] the most audacious and richest in productive artistic work that Berlin has seen in a long time.[22]

Preparations were now being made for the show to travel to Paris and Amsterdam in the new year. With this in mind, Shterenberg appealed to the Constructivists to lend to the exhibition further examples of their work, as well as to provide some commentary upon it, since no member of the committee traveling with the exhibition was sufficiently competent to respond to the many interested questions their work had provoked among viewers.[23] This indication of foreign interest in the work of the Moscow Constructivists after the years of the Blockade could only have been welcome and encouraging news to Ioganson, and he renews his efforts to find support among his former colleagues in Latvia to bring the Berlin show to Riga.[24]

In Berlin, Ioganson exhibited five constructivist drawings, one relief, and three spatial con-



80 David Shterenberg, D. Marianov, Natan Al'tman, Naum Gabo, and Ludwig Lutz at the *Erste Russische Kunstausstellung.* Galerie Van Diemen, Berlin. 1922.

structions. All three constructions were borrowed from the Museum of Painterly Culture (Muzei zhivopisnoi kul'tury; MZhK), which had acquired them over the course of 1920–21. While the museum's records refer to these particular works as spatial constructions, in Berlin each carried the title *Bautechnische Konstruktion* (technical construction);[25] at some point between the OBMOKhU exhibition (May 1921) and the Berlin show (fall 1922), therefore, Ioganson seems to have renamed this body of his work, perhaps in order to foreground more explicitly its association with engineering and thereby to assimilate or "update" it to his more recent productivist concerns.

In February 1923, Ioganson tries to establish an experimental laboratory in "construction technics" *(stroi-tekhnika).* He submits a budget estimate to the INKhUK's board for the equipping and maintenance of a "laboratory for invention in construction technics," under the aegis of a new Section for Construction Technics (Sektsiia stroi-tekhnicheskaia). Of all the Constructivists, Ioganson has had the most practical experience in building technologies, and since a lack of such experience is one of the main obstacles confronting the INKhUK in its posteaselist call to production, his laboratory is presumably intended to help fill the gap. His itemized estimate includes the following categories:

Equipment:

1. 1 set of elements—basic woodworking instruments (of the American type). Including a machine bench *[stanok].*
2. 1 set of elements—basic metalworking instruments.
3. 1 set of drawing instruments.
4. Raw materials: wood, metal, other.
5. Minor expenses: paper, pencils, etc.

Maintenance:

Includes salary, rental of the laboratory's premises, utilities (electricity, water supply, etc.), one maid *[prisluga],* and two skilled workmen *[mastera].*[26]

Given that the INKhUK has no permanent location, and very little money, it is possible that Ioganson is proposing to reequip as a laboratory his own studio, which is located in a building on the corner of Tverskaia and Sovetskaia *ploshchad',* directly opposite the city government, the Moscow Soviet of Workers' and Soldiers' Deputies (Moskovskii sovet rabochikh i krasnoarmeiskikh deputatov; Mossovet). This seems to be corroborated by the certification issued to him by the INKhUK, stating that "the premises located at 34 Tverskaia *ul.,* apt. 27, are occupied by the workshop *[masterskaia]* of Karl Vol'demarovich Ioganson, a member of the INKhUK and a fellow *[sotrudnik]* of the Academy of Artistic Sciences [RAKhN]." The certificate describes his workshop as a "laboratory for the execution of works in plan *[v plane]* under the auspices of the Institute of Artistic Culture."[27]

The term "laboratory" has been pervasive in the INKhUK's rhetoric since its foundation in 1920. It is evocative of the much-desired shift from the artist's "studio," a term that carries residual negative connotations of contemplation and introspection, to the dynamic and rationalized experimental spaces hitherto exclusive to scientists and engineers. The equipment requested by Ioganson is all rudimentary, of the kind that he has been using to make spatial constructions. But his reference to "construction technics" suggests that he has something rather more specific in mind, perhaps something along the lines of the other projects with which he is busy. For one, it appears that Ioganson is involved with a stage design for a theatrical production. In March 1923, Popova draws up a chapter outline for a projected INKhUK anthology devoted to Constructivist theater design. Her list includes a note on Ioganson's "project for the production of 'The Devil'" *(proekt postanovki 'Chert'),*[28] a discussion of which she intends to include in her volume.[29] Also around this time, Ioganson is working on the construction of an industrial apparatus. He proposes in a note to Babichev that he present a paper to the INKhUK concerning his invention of a "drying apparatus for the drying of aluminum, tin, and lead" *(sushilka dlia sushki aliuminiia, olova i svintsa).* With his note, he encloses six "theses" detailing the contents of the proposed paper and adds that a second paper might perhaps also be necessary.[30]

While we lack evidence as to whether any of these 1923 projects are in fact realized, that each is connected in some way or another with the INKhUK indicates Ioganson's continuing involvement with the institute. To this evidence, we should add that the INKhUK's *protokoly* (minutes) between fall 1922 and early 1924 reveal Ioganson's continuing, if sporadic, attendance at its meetings.[31] Further, as noted at the outset of the chapter, Ioganson's name appears on Brik's 1924 *Lef* list of INKhUK productivists. There is no doubt, therefore, that Ioganson does not abandon the institute before its forced closure by RAKhN in February 1924. We have no definitive evidence regarding when Ioganson *begins* at Prokatchik, but we do have Babichev's "a long time," which, when combined with the evidence just presented, establishes that Ioganson is most certainly in two places at once—that there is, in sum, a significant overlap in his institutional affiliations and activities as a Constructivist.

While the question of when Ioganson starts at Prokatchik cannot be answered with certainty, we can nevertheless tentatively date the moment when the two major concerns of his life—his Constructivist enterprise and the means by which he earns a living—might have begun to intersect in a meaningful way (rather than simply proceeding along parallel paths). I want to suggest that this moment occurs sometime in mid-1923. In May 1923, Ioganson takes the first of what will become annual holidays in the Crimea and, upon his return to Moscow, seems to have reconsidered his current situation. "I am again making new plans," he writes optimistically to his sisters on June 21, 1923, "if I begin in the fall, they will drag on for many long years—what can I do if [our parents] brought me up like this—to believe in the necessity of always striving [after the new] rather than ever being content with what one already has." Before revealing the substance of the "new plans," however, he cuts himself short: "More about this another time. [With regard to my new plans,] I have calculated that not one day, nor even a single hour, is to be wasted in vain."[32] Unfortunately, he never returns "another time" to explicate what he has in mind.

On the basis of archival evidence, it is now possible to reconstruct the main contours of the path upon which Ioganson embarks, in or shortly after the summer of 1923. Whether or not that path represents the fulfillment of the all-consuming "new plans" mentioned in his letter to his sisters, one cannot know, but I wish to propose the following hypothesis: that Ioganson's fresh optimism in June 1923 is the result of his having sought out, or been presented with, an unprecedented opportunity in which to instantiate his Constructivist principles within the industrial environment. This opportunity arises in the context of the "reconstruction" *(vosstanovlenie)* of Soviet industry undertaken by the Bolshevik government in the early 1920s in an attempt to enable the young Soviet Union to recover from the devastation wrought by the events of the last decade. In 1923, Prokatchik is among those enterprises targeted for reconstruction; this is to involve a major expansion of its premises and the complete overhaul of its shop floor. Perhaps no greater opportunity to finally respond to the Constructivists' exhortation to the artist to enter production could be imagined than participation in such a major task of Soviet reconstruction.

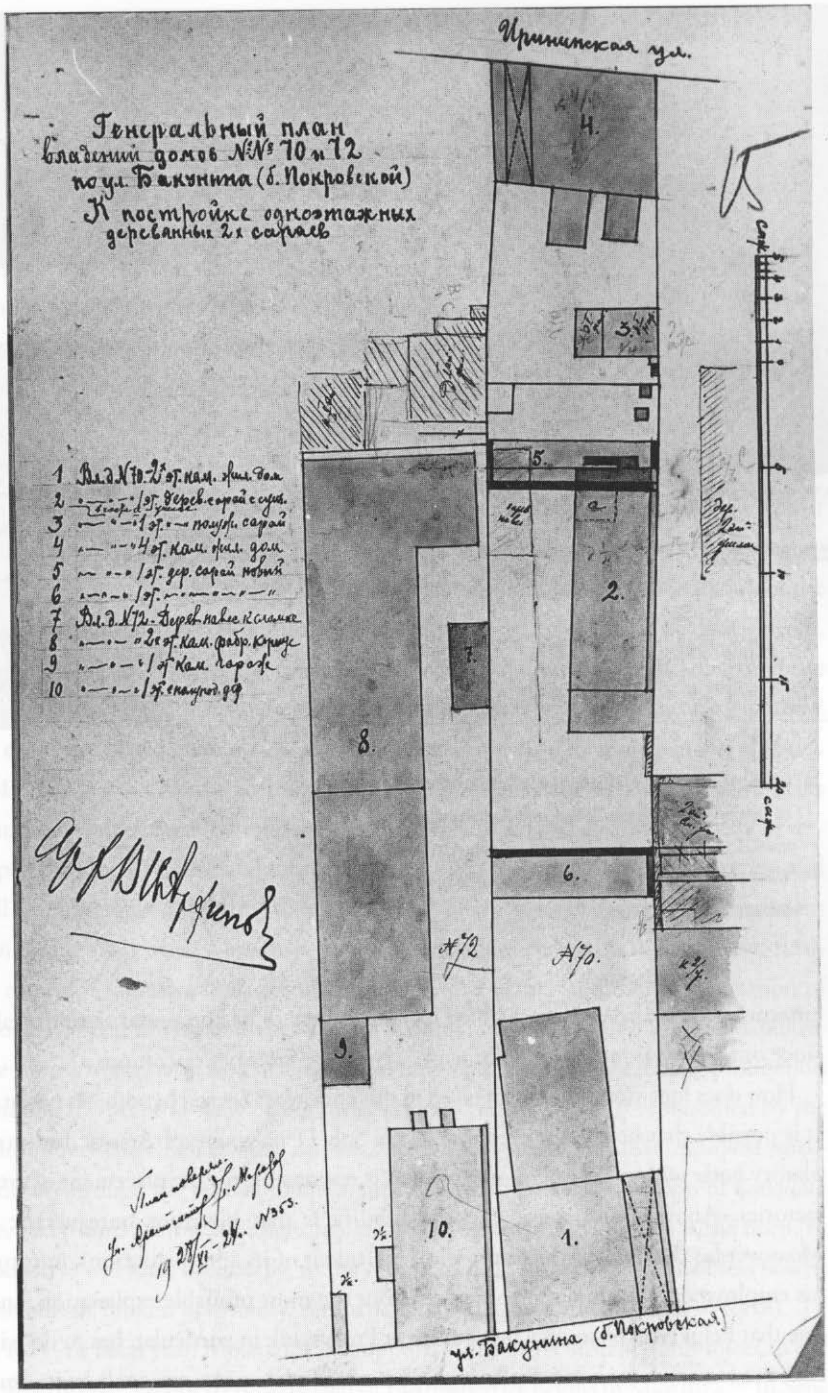
PROKATCHIK'S PROFILE AND RECONSTRUCTION

Prokatchik became state property during the nationalization of industrial enterprises undertaken by the Bolsheviks in 1918. Until 1922, the factory was still known by the name of its former owner, Vasilii Balashikhin, one of whose sons—Sergei Vasiliivich—continued on after nationalization as its managing director. Located at 72 Bakunina *ulitsa* in the Lefortovskaia *chast'* of Moscow, the factory appears in a photograph taken in 1932 as part of a *rulon* (a roll of photographs spliced together) documenting Bakunina's entire streetscape (fig. 78); Prokatchik's narrow street frontage runs from the closed double gates before which the dray stands to the right edge of the frame.[33] The photograph does not show the major expansion of the premises undertaken in 1924, for the factory's main buildings are not visible from the street—these extend far back into the depths of the narrow block, as indicated by a 1924 general plan of the property and of that adjacent to it (fig. 81).

Of the three kinds of enterprises that exist under the New Economic Policy (NEP)—state, cooperative, and private—Ioganson, like his fellow Constructivists Stepanova, Popova, and Aleksandr Rodchenko, pursues his Constructivist ambition in a state enterprise.[34] Prokatchik is one of eleven state factories that in December 1922 are placed under the administrative authority of the newly created Moscow Trust of Middle and Light Industry (Moskovskii trest srednei i melkoi promyshlennosti; Mossredprom).[35] Like all city-level trusts, Mossredprom comes under the jurisdiction of the Moscow Soviet of National Economy (Moskovskii sovet narodnogo khoziaistva; MSNKh), which is the economic organ of Mossovet. Renaming the factory "Prokatchik" is one of the first things Mossredprom does when it takes the former Balashikhin factory onto its books. (*Prokatchik* means "roller," or one who operates a rolling mill, a machine that reduces large metal masses to sheets by passing them between paired rotating rolls.)

Mossredprom's initial brief is to see to the amelioration of the deplorable state of its factories' shop floors, in terms of both machinery and labor relations, and to centralize their administration, supply raw materials, and manage all sales. At Prokatchik, it begins this task in early 1923 by installing Evgenii Blitsau as the factory's new director. A trade union member and since 1913 also a member of the Russian Communist Party, Blitsau is one of the new breed of "red directors" *(krasnye direktora),* who, because of their allegiance to the party, are seen as reliable implementers of Bolshevik economic policy.

Despite Blitsau's eighteen years of production experience, Mossredprom also appoints the former owner, Balashikhin, a "nonparty man" *(bespartinyi)* who has worked in production for forty-three years, as the factory's technical director *(tekhnoruk).* Thus in 1923–25, Prokatchik's management consists of Blitsau, the older Balashikhin, and Blitsau's deputy, Gintse, a party member since 1917 with a ten-year record in production.[36] This parallel system of management, which tries to compensate for any potential technical deficiency of its red director and the ideological deficiency of his head technician (a *spets* and thus a potential perpetrator of industrial espionage and economic sabotage) is common to many state



81 V.I. Arkhipov. "General plan of the properties of no. 70 and no. 72 Bakunina (formerly Pokrovskaia) *ulitsa*." ca. November 1924. Historical-Architectural Archive, Moscow, f. Lefortovskaia *chast'* 938/747, d. 10, l. 15. Photograph courtesy of Historical-Architectural Archive, Moscow.

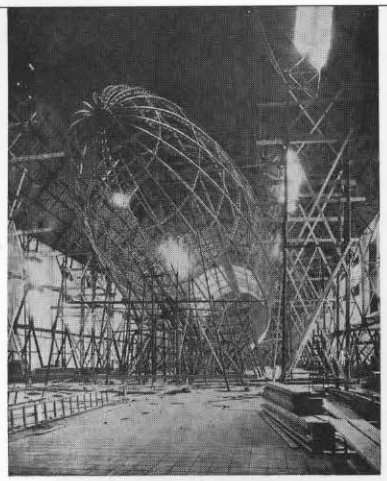
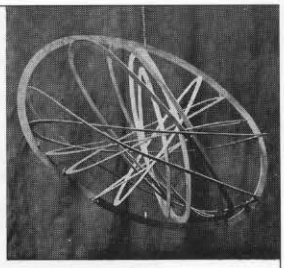


Fig. 108. The skeleton of a dirigible.

Engineering assemblage as an economical working principle has had a fundamental influence on the new sculptural creation.

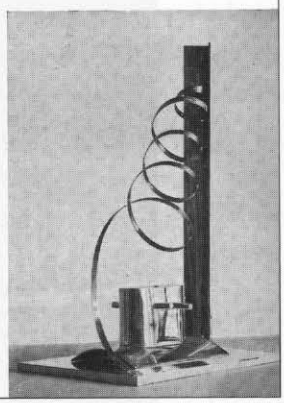
110

Fig. 109. Rodchenko. Moscow, 1920. Construction.



The completely perforated, completely broken-through, piece of sculpture demands on the one hand a developed technical knowledge, and on the other hand a mind that works abstractly; a freeing of material from its weight, a passing beyond expressional ends.

Fig. 110. L. Moholy-Nagy. 1921. Nickel sculpture.



The introduction of the high polished surface, machine-like assemblage of the new constructivist sculptures became the harbinger of "industrial art."

82 László Moholy-Nagy, *The New Vision: Fundamentals of Design, Painting, Sculpture and Architecture,* trans. Daphne M. Hoffmann, rev. and enl. ed. (New York: Norton, 1938), 110–11. Photograph courtesy of Hattula Moholy-Nagy.

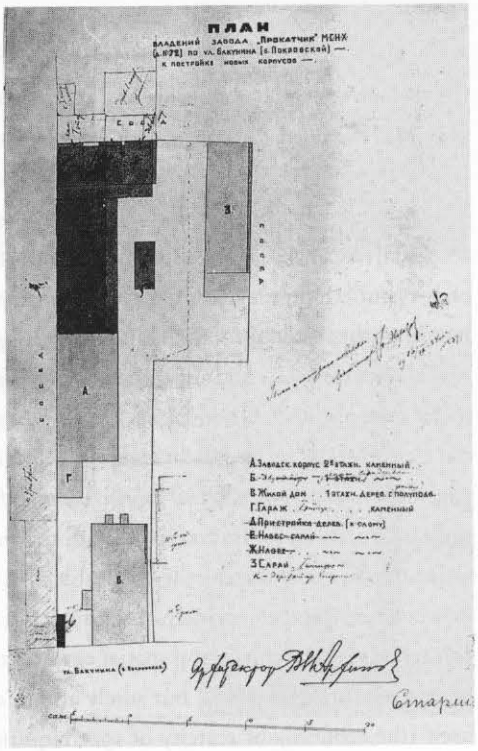
enterprises. It is also not unusual for former owners to be appointed as technical directors, since often they alone are fully informed about the factory's operations.

How does Ioganson become involved in this endeavor? Several hypotheses might be offered. It is possible that he is assigned through the Sub-Department of Artistic Industry, the regulatory body within IZO Narkompros that is responsible for the placement of artists within factories. Another and more likely possibility is that his prior bureaucratic service in Mossovet (as the head of the economic department of its administration), in 1919,[37] secures his employment within a state enterprise. But the most probable explanation, and the only one that helps to explain why he ends up at Prokatchik in particular, has to do with the fact that the factory has an unusually high percentage of Latvian nationals in its employ from 1923 on. Blitsau and Gintse are not only members of the Russian Communist Party but are also Latvians.[38] Many other names recorded in the documents pertaining to Prokatchik are Latvian, and there exist within the factory various Latvian-defined "circles" and groups as well.[39] Thus, Ioganson's employment at a time of job scarcity may be attributed to the principle of compatriotism *(zemliachestvo).*[40]

If the Latvian connection accounts for his employ at Prokatchik, there nevertheless remains the much more difficult question of defining his *precise role* there. Information about the factory's production profile and its reconstruction in 1923–24 assists in answering this question. Prokatchik is a typical example of the small-scale metalworking enterprises located within the city's limits (in 1924, the factory has 196 workers).[41] It rolls alloy and nonferrous metals—in particular, aluminum, tin, and lead.[42] Nonferrous metallurgy's most important recent advance, the introduction of aluminum and its alloys into foundry practice in the early twentieth century, would have special appeal for a Constructivist. The First World War increased the demand for light aluminum alloys, for these were used extensively in the construction of dirigibles and airplanes, which required lightweight, resilient frameworks of enormous dimensions.[43] When László Moholy-Nagy publishes Rodchenko's *Oval Hanging Spatial Construction, no. 12* and an image of a dirigible skeleton on the recto and verso of a single page in his 1929 *Von Material zu Architektur* (fig. 82),[44] the juxtaposition is not only one of similar structures; it also has to do with the tremendous enthusiasm among contemporary artists for the extremely ductile, malleable, and corrosion-resistant structural materials of the new engineering age—namely, aluminum and its alloys. Rodchenko, it will be remembered, painted his plywood hanging spatial constructions with aluminum paint in order to create certain kinetic light effects, but surely also in enthusiasm for the new engineering material itself (the economy of scarcity of 1921 requiring him to work with it only in simulation).

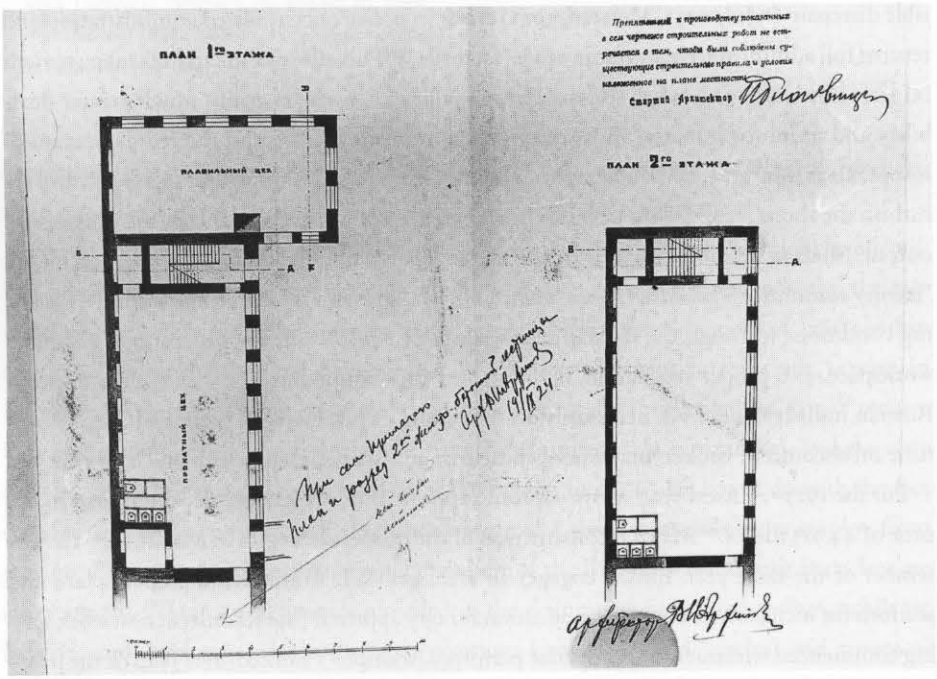
Until Mossredprom's takeover in 1922, Prokatchik was operating with only a third of its pre-revolutionary workforce;[45] its machinery had become outdated and was in a state of terrible disrepair. In July 1923, Mossredprom revises its policy of centralized administration and returns full administrative autonomy to its factories.[46] This affords Prokatchik's management (at least until late 1924, when Mossredprom's policy changes yet again) much greater flexibility and room for initiative in its reconstruction of the factory and the reorganization of its operations. In 1924, Blitsau launches a major rationalization campaign to expand and refurbish the shops *(tsekhi)* with new machinery, in the hope of thereby increasing production output. Sharing the point of view of the metalworkers' union, which is represented by the "factory committee" *(zavodskii komitet; zavkom),* Blitsau seems to believe that improved working conditions (through the regular maintenance of equipment, the provision of adequate workspace, and proper ventilation, lighting, and sanitation—none of which is the norm in Russian industry) will lead, necessarily, to the raising of productivity (because of less downtime on account of broken machinery, industrial accidents, absenteeism, and so forth).

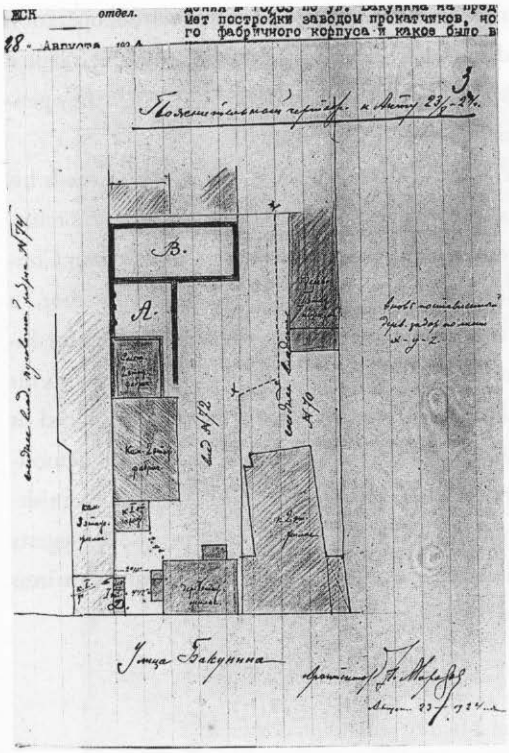
For the 1923–24 fiscal year, Mossredprom supports Blitsau's reconstruction project to the tune of 44,913 rubles.[47] Major reconstruction of the properties begins in May 1924.[48] In September of the same year, Blitsau engages an architect, V. I. Arkhipov, to prepare plans and sections for inclusion in a belated application for city approval (the reconstruction work having commenced without the appropriate permits). Arkhipov's worked-over plan of the property designates the new buildings (fig. 83). The first-floor plan of the main new structure (fig. 84)[49] reveals a substantial increase in the floor space of the rolling shop (*prokatnyi tsekh,*



83 V.I. Arkhipov. "Plan of the property of the factory 'Prokatchik' MSNKh (building no. 72) on Bakunina (formerly Pokrovskaia) *ulitsa*–for the construction of new buildings." September 16, 1924. Historical-Architectural Archive, Moscow, f. Lefortovskaia *chast'* 938/747, d. 9, unpaginated. Photograph courtesy of Historical-Architectural Archive, Moscow.

84 V.I. Arkhipov. "Plan of the first floor" and "Plan of the second floor," showing new construction at Prokatchik. September 19, 1924. Historical-Architectural Archive, Moscow, f. Lefortovskaia *chast'* 938/747, d. 9, l. 13. Photograph courtesy of Historical-Architectural Archive, Moscow.





85 N. D. Morozov. "Explanatory sketch to accompany document 23/8–24." 1924. Historical-Architectural Archive, Moscow, f. Lefortovskaia *chast'* 938/747, d. 9, l. 3. Photograph courtesy of Historical-Architectural Archive, Moscow.

corresponding to "A" on the summary sketch by a city architect, fig. 85). At the rear of the rolling shop, the first-floor plan shows the new, also expanded, foundry (*plavil'nyi tsekh,* corresponding to "B" in fig. 85). The function of the second floor remains unspecified, but it is most likely intended to house the factory's finishing shop *(krasil'nyi tsekh).* Mossredprom further funds substantial purchases of new machinery for each of these shops.[50] According to a Mossredprom report of 1925, "the construction work turned out to be very costly but it was well done."[51]

THE INVENTOR AT THE BENCH

Precisely what kind of involvement does Ioganson have at Prokatchik during its reconstruction and re-equipping, potentially a buoyant opportunity for this *konstruktor*? The records of the factory's party cell *(iacheika)* indicate that Ioganson's official job on the shop floor—the job for which he draws a salary—is as a metalcutter *(rezal'shchik po metalu).*[52] That he secures employment in the cutting division is not surprising, since the transition from the sculptor's tools to the industrial cutting blade is not uncommon for refugee artists in production; it is particularly unsurprising for this Constructivist, since he has worked in metal and, most probably, aluminum in the production of his spatial constructions (see chapter 2, nos. *VIII*

and *IX*). On account of the precision required in metalcutting and machine-tool operation in general, the metalcutters are highly skilled and relatively well-paid workers. Although skilled metalworkers are very much in demand in 1923, owing to an industry shortage,[53] they generally have no special role in the *organization* of production.

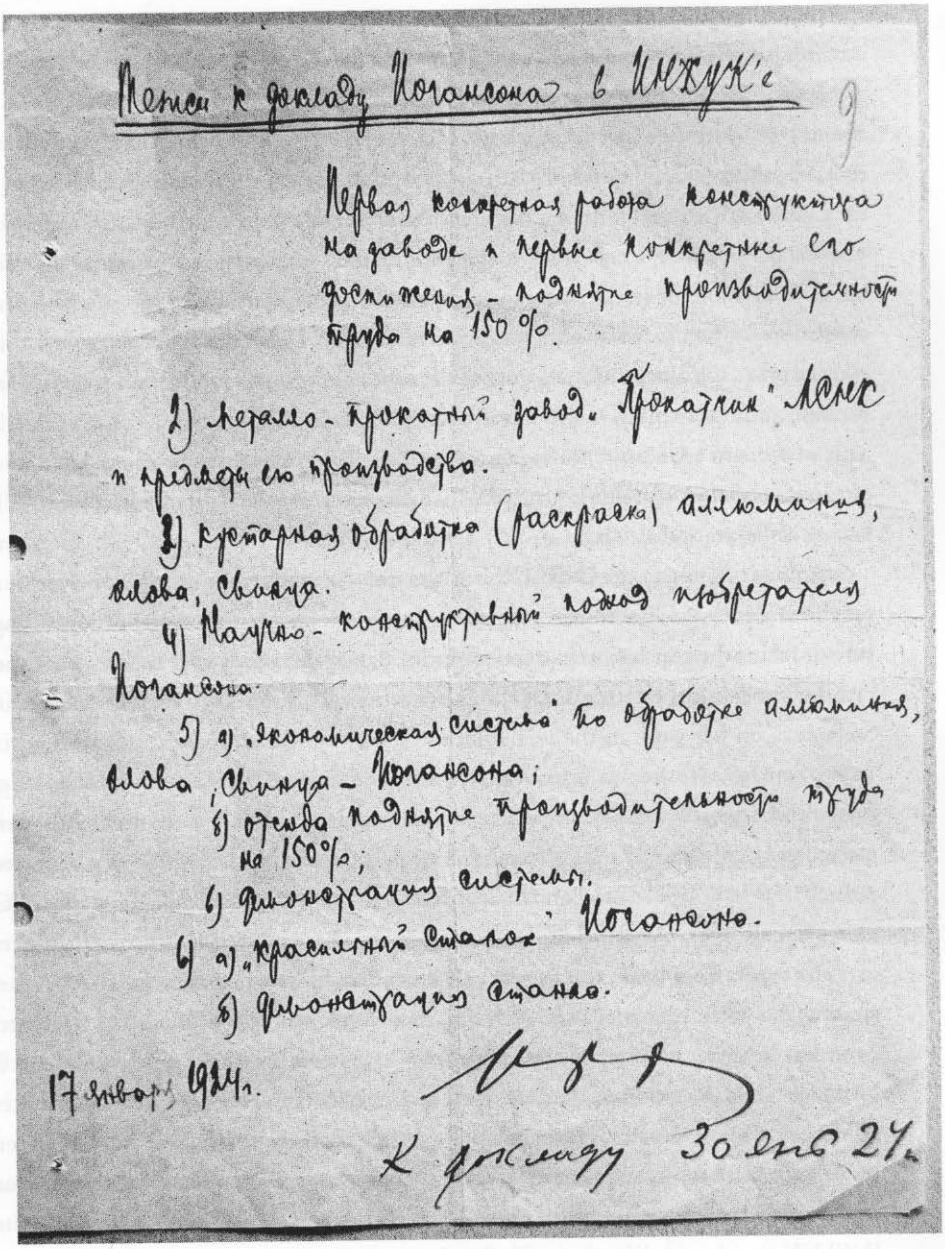
Ioganson, however, does. The evidence suggests that his role in the factory exceeds his official status as a metalcutter. Until at least early 1924, Ioganson contributes to the refurbishment of the shop floor through the invention of a production apparatus based on Constructivist principles and dedicated explicitly to "the raising of the productivity of labor," a phrase that arises in his rhetoric now for the first time. The key piece of evidence for Ioganson's initial Constructivist intervention at Prokatchik is a paper that he presents to his INKhUK colleagues on January 30, 1924. In it, Ioganson claims to have produced at Prokatchik "the first actual work of a *konstruktor* in a factory," and he goes on to demonstrate his invention of a new "economic system" and "machine for the treating [i.e., finishing] of nonferrous metals." Preserved in the form of its "theses" (fig. 86), his paper suggests that his invention has made it past the design stage, that it has been built and put into practice—with apparently startling results:

Theses of Ioganson's paper at the INKhUK:

1. The first concrete work of a *konstruktor* in a factory, and his first concrete achievements—the raising of the productivity of labor by 150%.
2. The metal-rolling factory "Prokatchik" of MSNKh and its production profile.
3. The handicraft method of treating (coloring) aluminum, tin, and lead.
4. The scientific-constructive approach of the inventor Ioganson.
5. a) Ioganson's "economic system" for the treating of aluminum, tin, and lead;
   b) hence, the raising of the productivity of labor by 150%;
   c) demonstration of the system.
6. a) Ioganson's "Finishing Machine";
   b) demonstration of the machine.[54]

Ioganson contrasts two different approaches to the treatment or finishing of metals and metal products: the "handicraft method" *(kustarnaia obrabotka)* of coloring each sheet or article by hand, and what he asserts as his own contribution—a "scientific-constructive" *(nauchno-konstruktivnyi)* approach to and an "economic system" *(ekonomicheskaia sistema)* for this aspect of Prokatchik's production.

Ioganson thus claims to have rationalized the process of metal finishing that takes place in the factory's finishing shop.[55] In place of the "handicraft method" of application, involving the hand-dipping of each sheet or article in a finishing coating, or perhaps its application by brush, Ioganson's proposes a new method, which presumably involves either the mechanization of the dipping process by the construction of a device attached to an automatic feed or the introduction of spray-gun coating.[56] Either of these solutions would greatly accelerate the pace of production.[57] It does not appear that Ioganson sought to patent



Тезисы к докладу Иогансона в ИНХУК'е

Первая конкретная работа конструктора на заводе и первые конкретные его достижения – поднятие производительности труда на 150 %.

1) Керамо-фарфоровый завод. Фарфоровый "Мейсен" и предметы его производства.

2) Чистарная обработка (раскраска) алюминия, олова, свинца.

4) Научно-конструктивный подход изобретателя Иогансона.

5) а) „Экономическая смерть" по обработке алюминия, олова, свинца – Иогансона;
б) отсюда поднятие производительности труда на 150%;
в) физиократия смерти.

6) а) „красильный станок" Иогансона.
б) физиократия станка.

17 января 1924 г.

К докладу 30 янв 24 г.

86 Karl Ioganson. "Theses of Ioganson's paper at the INKhUK." January 17, 1924. State Archive of the Russian Federation, Moscow, f. 4655, op. 1, d. 280, l. 9. Photograph courtesy of State Archive of the Russian Federation, Moscow.

his invention, even though coatings and coating methods are generally patented at this time.[58]

The *konstruktor*'s first "concrete achievement" in the industrial environment, then, is an attempt to contribute to the rationalization of the labor process and thus to the party's struggle against the "craftsmanly" *(kustarnyi)* character of much Russian industry. Insofar as the rhetoric of Ioganson's invention is explicitly tied to the task of rationalization, it is evident that a significant shift has taken place since his 1922 theses on invention, discussed in chapter 3. Although it is not until the Five-Year Plans (1928–37) that the ordinarily differentiated notions of "inventor" *(izobretatel')* and "rationalizer" *(ratsionalizator)* become so inseparable as to be more or less synonymous, Ioganson's activity at Prokatchik suggests that this conflation—wherein "to invent" means "to rationalize"—has already begun to take place as early as 1924. While the ultimate goal of the rationalization of production is its full mechanization and automation—what Lev Trotsky prophecies in 1927 as the "'conveyer-belt' principle of socialist economy"[59]—Ioganson's ambition at Prokatchik appears to be more modest. It nevertheless represents a step in that direction, insofar as its major objective is the raising of labor productivity.

Ioganson's report to the INKhUK on "the first concrete work of a *konstruktor* in a factory" has a strategic function as part of the institute's final bid to stave off impending closure. It forms the conclusion to a series of nine papers presented over the course of the preceding four months by various INKhUK members. This series has included, for example, Stepanova on her work in the textile industry, Brik on contemporary advertising in Germany, Anton Lavinskii on "leftist" advertising, and Georgii Stenberg on theater design. In early February 1924, Babichev submits all nine papers to RAKhN as evidence of the multifaceted range of the INKhUK's "scientific work," and thus of the legitimacy of its request to keep its doors open.[60] But Babichev's appeal to RAKhN is unsuccessful, and the INKhUK closes shortly after. Nevertheless, considered in the company of the other eight papers, Ioganson's report from the bench has the evident and ambitious rhetorical function of demonstrating the pertinence of Constructivism, first developed in the INKhUK, to the reconstruction of Soviet industry in the early 1920s. Ioganson's presentation to the INKhUK on his Prokatchik invention is thus the appropriate historical context in which to interpret Babichev's remark, on February 1, 1924, about the artist's employ at Prokatchik: the remark is not a response to a question apropos a putative absence, but rather, something like an explanatory gloss on Ioganson's current endeavor as this was sketched in his paper read to the INKhUK two days earlier.

In terms of its function at Prokatchik, Ioganson's Constructivist invention needs to be seen within the context of the factory's aggressive rationalization campaign in the first half of 1924. On June 25, 1924, Blitsau reports to the factory's party cell that much improvement has been made in the quality and quantity of Prokatchik's machine stock since the preceding January: "Through the intensive work of the management over the last six months, the number of machines in the shops has greatly increased; the regulation of production has

been achieved and [in terms of the factory's] future prospects, there are orders to be filled and these are expected to continue to be received for some time."[61] The general meeting of the cell accepts Blitsau's report "with great satisfaction" concerning "the rapid growth of productivity in the factory, and also [with regard to] the significant improvement in the factory's resources and number of workers." Given "the conditions in which the extremely difficult task of the reconstruction of the economic strength of the factory Prokatchik has taken place," the cell finds that the "stated increase in the economic capacity of the factory, especially in the immediately preceding six months, represents a gigantic growth in the productivity and economic strength of the factory." It therefore finds that "Blitsau . . . has fulfilled the tasks of the party organs and Soviet power *[Sovlast']* 100%."[62]

Insofar as Loganson's invention is concerned above all with the *means* of production, rather than the product itself, it departs from the mainstream productivist agenda in a crucial way. In March 1922, Boris Arvatov argued that the confluence of art and production could be achieved most rapidly in the fields of transportation, architecture, and the manufacture of utensils *(utvar');* significantly, Arvatov *excludes* the technology of production from the possible range of the Constructivist's immediate tasks: "With regard to the manufacture of instruments—the means of production—that is a significantly more complicated matter at this point. The issue will be taken up in turn, however, and when it is the instruments of labor will need to be considered first of all as [constituting] the 'environment' of labor."[63] Arvatov thus postponed the very issue upon which Loganson was to set his Constructivist ambitions.

It is possible that Arvatov's exclusion of the means of production from the Constructivists' ambit arose from the fear that any attempt to reinvigorate those means through recourse to the contemporary fascination with mechanization (à la Gastev) risked a further increase, rather than decrease, in the division of labor. The rhetoric of "worker-invention" *(rabochee izobretatel'stvo),* however, provides one way in which this risk might be obviated, even if only provisionally. While Loganson represents himself to his fellow Constructivists in the INKhUK as an inventor, or, alternatively, as a *konstruktor,* at Prokatchik he would be in an excellent position to take advantage of a new category of Communist labor known as worker-invention. In 1919, in a bid to overcome the division of intellectual and manual labor, the party made a call for invention from the bench.[64] Although much skepticism has surrounded the ultimate efficacy of worker-invention, it is nevertheless one of the earliest forms of worker initiative that helps to fuel the productivity drive of the NEP period and into the Plan years. Advocates of worker-invention proclaim it a uniquely "Soviet" policy.[65]

A lead photo story that appears in the November 1924 issue of the transport workers' journal *Tekhnika i zhizn'* (Technics and life) documents a selection of recent achievements by worker-inventors in various Leningrad factories.[66] The issue is designed by Aleksei Gan and Rodchenko, who have recently taken over the journal's production, revamping its previously rather conventional graphics in Constructivist style (fig. 87). The issue's inside front cover solicits the reader to subscribe to the journal: "*Tekhnika i zhizn'* will discuss and demonstrate

87 Aleksei Gan and Aleksandr Rodchenko. Inside front cover and page 1 of *Tekhnika i zhizn'* (Moscow), no. 21 (November 1924). Photograph courtesy of State Russian Library, Moscow.

for everyone the latest inventions—the latest achievements—in all realms of technics in the USSR and abroad. Workers! Advanced technology improves your life. This journal is for you!"

In the photo story that begins on the facing page, the journalist (identified only as "G," but perhaps Gan himself since the designers are also partly responsible for copy) informs us that, having been emancipated by the revolution, a spontaneous and tenacious "worker's (way of) thinking" *(rabochaia mysl')*, "now labors for improvements in the technology of production, it invents new systems of mechanization, it works out the most rational ways in which to deploy machinery, and it searches for the most efficient ways in which to utilize labor." The photographs accompanying this eulogy to worker-invention pose or montage workers adjacent to the machines, tools, and devices of their own invention: in the factory Elektrik, for example, one comrade Babinskii is shown next to an "automatic" machine *(stanok)* for the production of lamp shades, and at Krasnyi Vyborzhets, comrade Ul'ianov appears with an apparatus that accelerates the casting of spoons by a factor of fifteen, thus increasing productivity by sixty-five percent, while comrade Kamoin, a "Communist of the Lenin levy" (more on this later) is photographed with a machine for the fastening of rivets in aluminum boilers and saucepans. (The resemblance between this layout and Tatlin's collage *Novyi byt* [1923–24; fig. 88] is striking.[67]) Signed by Rodchenko, the cover of the same

88 Vladimir Tatlin. *Novyi byt.* 1923–24. Collage, incorporating photographs, text, and newspaper article on Tatlin's work (*Krasnaia panorama,* December 4, 1924, 17), on paper. State Russian Archive of Literature and Art, Moscow. Photograph courtesy of State Russian Archive of Literature and Art, Moscow.

89 Aleksandr Rodchenko. Front cover of *Tekhnika i zhizn'* (Moscow), no. 21 (November 1924). Photograph courtesy of State Russian Library, Moscow.

issue features one of the best-known of the Lenin podium photographs, published now in the leader's memory and in implicit connection with the issue's lead story on worker-invention (fig. 89).

Tekhnika i zhizn' also runs a regular column by Vladimir Shklovsky that publicizes recent worker-inventions and discusses problems faced by inventors at the bench (such as the chronic lack of infrastructural support from lower-government organs for the realization of their inventions). In the early 1920s, regular columns devoted to worker-inventions also appear in newspapers such as *Trud* (Labor) and in the journal of the "red directors" designed by the architect (and former INKhUK member) Vladimir Krinskii, *Predpriiatie* (Enterprise). A journal specifically devoted to the issue—*Izobretatel'* (The inventor)—is founded in 1929, by which time its basic rhetoric has long been in place: "We learnt how to use the black coal of the Donbass and Kusnetskii basin," its editors tell us. "We are [now] learning how to use 'white coal'—the water energy of Vokhov, Siberia, and Dnepr. But even more important is to learn how to use 'scarlet coal,' i.e., the energy of worker-inventiveness, the energy of the blood that irrigates the brain."[68]

On the front cover of the inaugural issue of *Izobretatel'* is a photograph that summarizes, in a flash, a decade of this rhetoric (fig. 90): an inventor—conspicuously a worker-inventor by both dress and the scrolled plans clasped under his arm—pauses to read a notice on the office door he is about to open. The notice—one typically found on such doors—reads "Do not enter without having been announced" *(Bez doklada—ne vkhodit')*. The photograph puns

90 Front cover of *Izobretatel'* (Moscow), no. 1 (January 1929). Slavic and Baltic Division, The New York Public Library, Astor, Lenox and Tilden Foundations.

on the double value of the word *doklad,* which, in addition to meaning "announcement" (as of the arrival of a visitor), also signifies "report" or "paper." Hence it suggests that the notice be read also as a warning to would-be slackers: "Don't enter without your report."

In addition to addressing the division of mental and manual labor, the call for worker-invention was also the Russian Communist Party's pragmatic response to the problem posed by the *spetsy.* As discussed in chapter 3, in the early years of industrial reconstruction the Bolsheviks were obliged to rely upon the expertise of engineers and other technical specialists whose origins were bourgeois and whose training had been conducted under tsarism. *Spetsy* were not party members and were often hostile to it. From the Bolsheviks' point of view, the risk of *spetsy*-instigated industrial sabotage was great (and led to measures like the parallel system of factory administration in place at Prokatchik). While the training of Communist engineers and specialists had already begun in the newly established polytechnics, the notion of the worker-inventor at the bench served as a stopgap measure. The additional valorization of workers' accumulated experience, initiative, and spontaneity that the concept implied also served as an attempt to appease workers outraged by the reappearance, once again, of the traditionally expropriating class of *spetsy* in positions of authority.

Since Ioganson always checks the "working class" *(rabochii)* box in response to the question of his social origins,[69] and since his official job is as a metalcutter, his invention would necessarily be construed as "from the bench"—as the work of a worker-inventor active on the shop floor. As far as I can ascertain, Ioganson's involvement in Prokatchik's productivity campaign is supernumerary, at least officially speaking. His instrumentalization of Constructivist principles in the service of the party's productivity drive fully accords, however, with the *quid pro quo* that motivates Blitsau: improved machinery and conditions means increased productivity. Since labor relations between workers and management (even red management) is a tense and critical issue at this time, there is a certain collusion here between worker and manager that is neatly suppressed by the rhetoric of worker-invention. As one of the new and much-lauded "worker initiatives"—that is, interventions into production from the floor rather than from management—such as the *subbotnik* (voluntary Saturday labor) and the phenomenon of *udarnichestvo* ("shock movement"—that is, "spurts of heroic labor performed in headlong fashion by enthusiasts awash with adrenalin and productive frenzy," as Richard Stites colorfully defines it[70]), invention at the bench contributes to the Soviet productivity drive of the 1920s. The fundamental question, however, is to what extent such initiatives, which are dedicated to the intensification of labor, serve, as William Chase puts it, to co-opt workers in their own exploitation.[71] That is, although the rhetoric of worker-invention embraces the dissolution of the division of mental and physical labor, the specific "content" of Ioganson's Prokatchik invention—its sheer economic rationalization—has nothing to do with the emancipation of labor, but rather everything to the contrary. In the conflict within the party between productivists and radicals, Ioganson seems to have sided with the former.

Nevertheless, it may well be the rhetoric of worker-invention that enables Ioganson to avoid being defined by management as an artist, and thus as an "interfering" nuisance, or being de-

rided by workers on the shop floor. By approaching the issue of production from the floor, rather than as an artist installed in a special production laboratory, Ioganson is able to avoid the major obstacle that has blocked his fellow Constructivists' entry into production—what Brik describes in his 1924 *Lef* article as the artist's "alienation from production." Brik argues that the division of labor still remains deeply entrenched in the industrial context because management, including even the new "red" variety, continues to resist any perceived threat to its authority in the organization of production:

> Indeed, artistic labor and factory work are still disunited. The artist is still an alien *[chuzhoi]* in the factory. People treat him with suspicion. . . . They cannot understand why he needs to know technological processes, why he needs information of a purely industrial nature. His job is to draw, to make drawings—and the factory's job is to select suitable ones and to stick them onto the ready-made, finished product.
>
> The basic idea of production art—that the outer appearance of an object is determined by the object's economic purpose and not by abstract, aesthetic considerations—has still not met with sufficient acceptance among our industrial executives *[khoziaistvennikami]*: they think that the artist who aspires to penetrate the "economic secret" of an object is poking his nose into somebody else's business.[72]

Brik may well have in mind Tatlin's famous humiliation a couple of years earlier, when he presented to the engineers of the Mechanical Trust (Mekhanicheskii trest) in Petrograd a proposal asking them to allow him to teach "the shaping of material" *(oformlenie materialov)* to workers and young people in the trust's factories and factory schools. In collaboration with Arvatov, Tatlin selected one factory in particular as an appropriate location at which to organize such a production laboratory: Novyi Lessner, which was one of the trust's largest metalworking factories (with more than five hundred workers, all of them male), and also one of the most radical (Lessner had been strongly pro-Bolshevik in 1917).[73]

But in March 1922, Arvatov reported back to his colleagues in the INKhUK that the Mechanical Trust's engineers had utterly failed to grasp Tatlin's purpose, and had responded with the suggestion that Tatlin, being an artist, should instead teach the draftsmen of the Technical Bureau (Tekhnicheskoe biuro) how to draw more beautifully. Arvatov's recounting of Tatlin's frustration appears to have provoked the laughter of his colleagues,[74] but Tatlin seems nevertheless to have remained convinced of the feasibility of establishing such laboratories. A year later, Arvatov mentions in passing in an address to the Proletkul't that Tatlin is currently active in the metalworking industry. (Unfortunately, he does not specify in what capacity or context.) Meanwhile, in March 1923 Arvatov presents to a general meeting of the INKhUK his observations upon cotton-print *(sitsa-nabivnaia)* production in Ivanovo-Voznesensk, a region with a great concentration of textile industries. He proposes that "artists begin active work in production," so that production will no longer be constrained by "lifeless stencils" and to prove that "it is possible [after all] to secure the organization of experimental laboratories within factories." This last comment seems to confirm not only that

the Lessner venture was unsuccessful, but also that Arvatov has not abandoned his faith in the kind of endeavor it represents.[75]

As Brik tells us in 1924, the single exception to the pattern of hostile management is the former Tsindel' textile factory, where Stepanova and Popova have been invited to work by the factory's director, one comrade Arkhangel'skii, and a professor Viktorov.[76] Ioganson is, as I have suggested, another exception, though of a different order. Unlike Tatlin and Arvatov, Ioganson does not make the tactical mistake, if we can call it that, of arriving at Prokatchik with a proposal to establish a production laboratory. Couched instead in the terms of a worker-initiative at a time when the party is doing everything it can to stave off further opposition from the benches, Ioganson's intervention—"the first concrete work of a *konstruktor* in a factory"—seems to slip past the kind of resistance from management that his INKhUK colleagues generally encountered.

PARTY AGITATOR AND PRODUCTION ORGANIZER

Later in the spring of 1924, Ioganson's role at Prokatchik shifts to new territory—to party agitation and production organization. Like invention at the bench, the *konstruktor*'s new (and again supernumerary) roles in production are also forms of worker-initiative, at least in principle. This shift suggests that, in the months following the INKhUK's closure, Ioganson rethinks the efficacy of Constructivism within production, finally turning to grapple with the divisive issue of managerial control over the production process. The urgency of this problem with respect to Constructivism has been well expressed by Paul Wood: "To the extent that design has . . . been identified as . . . a managerial function," Wood writes, "then the problem facing production decisions in a workers' state . . . is not primarily about technical decisions, and certainly not about stylistic ones, but about accountability in the workplace and workers' control of the production process. That is, a social and organizational matter, not the prerogative of an enlightened 'artist-constructor.'"[77]

If Brik's 1924 *Lef* article is any indication, it would appear that the INKhUK Constructivists themselves gradually come to understand the bearing this problem has upon their productivist endeavors—that the obstacle to the instantiation of Constructivism in production is not so much their own lack of technical expertise, but their lack of *managerial control.* An essential backdrop to this problem, for the Constructivists in general and Ioganson in particular, is the struggle between advocates for workers' control *(rabochii kontrol')* and those for state (that is, party) control of industry, which in the early 1920s riddles party politics. Viewed in the context of this struggle, Ioganson's various worker-initiatives at Prokatchik might be interpreted as profoundly ambivalent or as strategic, depending on how one looks at it—that is, not only as interventions seeking to establish workers' control over production, but also perhaps as instruments by which the *konstruktor* can accede to a position within the hierarchy of *state* control.

Of the complex of factors that bring about Ioganson's transformation from *konstruktor* to party agitator and production organizer, two stand out: the closure of the INKhUK and the party's announcement of an intense membership drive, the so-called Lenin levy *(Leninskii prizyv)*. Lodder notes that the last formal meeting of the INKhUK at which an attendance list is kept is held on February 1, 1924[78]—this is the meeting at which Babichev makes his announcement regarding Ioganson working at Prokatchik. As far as Ioganson is concerned, the closure of the INKhUK marks the end of the research circle in which he has been involved for the past five years, and in dialogue with which he has been transformed from a traditional figure sculptor to arguably the most unrelenting Constructivist of the group.

On the same day as the INKhUK's last documented meeting, the Central Executive Committee (Tsentral'nyi ispolnitel'nyi komitet; TsIK) of the Russian Communist Party announces, in the mass-circulation Moscow daily *Pravda*, its campaign to "proletarianize" the party. This consists of a major drive to enroll hundreds of thousands of workers from the bench ("genuine" proletarians) as party members.[79] Announced but ten days after Lenin's death, it is later named the Lenin levy in his memory (although Lenin himself probably would have opposed the drive[80]). In response to the Lenin levy, some 25,000 workers join the Moscow party organization in 1924, increasing its membership by a third; about sixty percent of these new members are textile, metal, and railroad workers.[81] Ioganson is among their number.

In March 1924, a month after the INKhUK's closure, Ioganson formally aligns himself with the Russian Communist Party, applying for membership through Prokatchik's party cell, which is the basic unit for party membership.[82] The *protokoly* of the cell reveal that it is involved not only in party work or propaganda but also, to a very considerable extent, in industrial work—that is, in the day-to-day operation of the factory. At Prokatchik, the cell therefore fulfills some of the functions of industrial management. (This is not always the case at the time, nor is it the case after the introduction of the Five-Year Plans, when factory cells are restricted to party work only.)

The cell advances Ioganson for full party membership in November 1924 (although, for some reason, the process will not be formally completed until August 1925), after a probationary period *(kandidatskii stazh)* required of all new cell members, during which time the probationer has to demonstrate active participation in party work.[83] Ioganson earns his membership by carrying out numerous agitational tasks. (Cell work is unpaid, with the exception of the salaried executive secretary, who is relieved from fulfilling other obligations in the factory.) First, he is entrusted with the daily reading aloud of the factory newspaper *(stengazeta)* during the lunch hour (presumably for the benefit of illiterate workers—illiteracy is high among unskilled labor).[84] After a couple of months of this, Blitsau successfully nominates him for election to the cell's inner circle of half a dozen Communists, its "bureau" *(biuro)*.[85] (The cell's *protokoly* reveal that Ioganson is, in an informal way, a "Blitsau man"—that is, a worker from the floor upon whom the red director can depend for support.)

At the end of May 1924, Ioganson, in collaboration with Blitsau's deputy, Gintse, is appointed to create a "Lenin corner" *(ugolok Lenina)* in the factory's courtyard.[86] Such corners are required in all factories, apartment buildings, and workers' clubs.[87] Ioganson's is a conventional example of the genre. With the two hundred rubles supplied by management, he acquires a Lenin bust. An unveiling ceremony is to take place on August 30, the anniversary of the 1918 assassination attempt on Lenin's life.[88] Having installed the bust, ordered costumes for the Young Pioneers *(iunye pionery)*, and solicited money for costumes for the factory's orchestra and theatrical group, he draws up a program and invites various local party and union officials and journalists to attend. He later changes the date to the following day, a Sunday, so that workers' families can also attend.[89] The ceremony, which begins at noon, includes an address by Blitsau, the reading by Ioganson of an honor roll of Prokatchik's "labor heroes," and a speech about Lenin by a Regional Party Committee (Raionnyi komitet; Raikom) official.[90] (Later, an indoor "winter Lenin corner" and a Lenin reading room are installed in the factory's workers' club.[91]) Ioganson's probationary tasks have an explicit propaganda function; they are strident examples of the *konstruktor*'s participation in what Stites well describes as Soviet ritual building.[92]

Also in August 1924, and partly upon Ioganson's initiative, the factory is renamed *Krasnyi* [Red] Prokatchik,[93] demarcating its political allegiance (even though this allegiance is not unanimous on the shop floor). This standard intervention—many Soviet factories have the adjective "red" in their names—is intended to imply that Prokatchik is not only responsible for the production of rolled metal, but also for its contribution to the party's rhetorical armature: With its red director, its red name, its red (Lenin) corner, and its red production program, Prokatchik is a kind of propaganda machine. All of this is calculated to forge *socialist* industry—to represent the wedge that the October Revolution has driven between capital and industrialization. Importantly, both the Lenin corner and the renaming of the factory coincide with Blitsau's major expansion of the factory's production capacity undertaken in fall 1924.

There is more at stake in Ioganson's joining the party than the fulfilling of tasks having an explicit propaganda function, however. In addition to registering his political convictions in a very direct way, Ioganson joins the party and the cell's bureau, I would hypothesize, in order to position himself in closer proximity to Blitsau, who, with Balashikhin's technical assistance, controls production (and is also a member of the bureau). Ioganson believes, perhaps not unreasonably, that party membership will bring him closer to the kind of *managerial* position that will more readily enable his instantiation of Constructivist principles in production. That is to say, it appears that Ioganson, once he is at work on the floor, comes to understand that the industrial process is significantly more complex than the invention and construction of individual apparatuses. Certainly, one can imagine that Ioganson, having invented an "economic system" that, in conjunction with a new finishing machine, has raised productivity 150 percent, now holds a decidedly more ambitious vision of the role of

the *konstruktor* in production: to participate in the unification of all aspects of Prokatchik's production into a rationalized, factory-wide system. The long and the short of his ambition, I would like to propose, is a desire for a role in the organization of production—a conceptualization of the *konstruktor* as an engineer of the totality of relationships within an industrial enterprise. Since Prokatchik's management is conspicuously red, there is no faster route to management for a self-identified worker than through the party cell.

In May 1924, at the same time as entrusting Ioganson with the Lenin corner, the cell's newly elected bureau also appoints him as the "organizer" *(organizator)* of the factory's "production meetings" *(proizvodstvennye soveshchaniia)*, thereby providing him with a second avenue for the realization of his Constructivist ambitions.[94] A new industrial initiative launched by the party in 1923–24,[95] the production meetings are planned as a regular forum for workers and management to cooperate in discovering ways to increase productivity and lower costs, and are attended by representatives drawn from the factory's skilled workers, party cell, management, and factory committee. The intention is that the party's economic policy—the raising of labor productivity—will benefit from the workers' intimate knowledge of the production process and their "creative energies" (expressed in, for example, their inventions from the bench), and that, in turn, the workers will feel that they play more than a mechanical role in the implementation of that policy.

The meetings are controversial as they give workers the opportunity to voice claims of management incompetence—to point to the shortcomings and failures of management, rather than those of the shop floor, as slowing the party's productivity drive. This corrective function is not to be mistaken as interference in management, for the meetings have a crucial recuperative function—to nurture the "proper" balance between "collegiality" *(kollegial'nost')*, the principle upon which workers' control is based, and "one-man management" *(edinonachalie)*.[96] (The "parallel" system of management at Prokatchik essentially belongs to the latter category, since the technical director—a *spets*—has no official part in the formulation of policy.)

One of the major divisive struggles since the revolution, both within the party and between party and nonparty workers, is over the question of who controls production, in the sense of who is responsible for factory organization and the technical processes of production: the workers themselves or the state acting on their behalf. Radicals in favor of workers' control hold that the basis of all revolutionary action is the direct and spontaneous economic initiative of workers; control over production should therefore be entrusted to the factory committees elected by workers, which should not merely execute economic policy but formulate it. In this scheme, the trade unions are theorized as the basis of the national economy. By contrast, the Russian Communist Party's economic policy of planning—which it posits as the only means by which to overcome the anarchy of capitalist production—demands the centralization of power and control in the state, and thus the subordination of the trade unions. Workers and their representative factory committees are not to interfere

in management because, the party argues, they cannot be presumed to have the necessary long-term political goals or the requisite skills, knowledge, and ability to manage a factory on their own.[97]

This conflict intensifies in the first years of the NEP, when, in the name of the party's productivity drive, even many red managers deny workers any kind of formal control over production. (The managerial resistance to the productivists' interventions discussed by Brik in his 1924 *Lef* article should therefore be understood within the context of this much larger problem.) As a result of this denial, the number and intensity of strikes and labor disputes increase, and a host of workers' oppositions—the most powerful of which is the Left Opposition, with which Trotsky is associated—gain significant political support among workers. By 1923, therefore, the party is under enormous pressure to resolve the situation. Introduced as a measure in that direction, the production meeting is thus a form of damage control—a concession pitched in the hope that it will avert full-scale industrial unrest and diffuse the threat posed to the Soviet government by the Left Opposition.[98]

At Prokatchik, the party cell takes responsibility for the administration of the production meetings—rather than management or the factory committee, as is more usually the case—and production organization becomes as much a part of its ideological work as its more explicit propaganda work.[99] In addition to Ioganson and Blitsau, eleven other members are elected to the meetings from various areas of the factory. In early June, Prokatchik's production meeting is instructed by the party cell "to get down to work."[100] This takes some doing, however, since there is considerable confusion about what work, precisely, to do.

In August 1924, the tasks of production meetings are specified in a special directive from the Central Control Commission and Workers' and Peasants' Inspectorate (Tsentral'naia kontrol'naia komissiia i Raboche-krest'ianskaia inspektsiia; TsKK-RKI) and the All-Union Central Trade Union Council (Vsesoiuznyi tsentral'nyi sovet professional'nykh soiuzov; VTsSPS). According to the directive, production meetings should: ascertain shortcomings in the factory's production; assess what raw materials are required for production and check that everything required is in supply; monitor the receipt and storage of materials; monitor the expenditure of fuel and introduce measures to economize usage; check the conditions of the factory premises and buildings and ensure that repairs are done and the property protected; monitor the allocation and repair of tools and machinery and the instruction in their usage; conduct inspection and auditing of production, production norms, and times; struggle against the production of defective goods; figure out measures to raise the productivity of labor and to minimize the downtime of machinery; ensure the expedient utilization of the labor force; increase the number of skilled workers; increase the mechanization and protection of labor; take measures to lower production costs; find ways of attracting workers to the work of administration, thereby downsizing the administrative apparatus; engage in the planning work of the enterprise; verify and precisely define production programs and see to their fulfillment; work out plans for new kinds of production; take up workers' suggestions for improvements to the production process and technical advances; participate in technical meet-

ings of management and trust; establish factory training schools (*fabrichno-zavodskie uchilishcha;* FZU) to train the labor force; equip teaching workshops, evening courses for the improvement of skills, etc.; and be familiar with the way the factory relates to other economic organizations and with the economic policy of the Soviet of National Economy (Sovet narodnogo khoziaistva; Sovnarkhoz).[101]

This is quite a job, obviously. The directive runs in a seemingly impossible number of directions, but its bottom line is driven home in a second VTsSPS directive, of September 1924, which clearly instructs that *the chief goal of all production meetings is to assist in the party's rationalization campaign.* The TsIK determined earlier in the year that the surest way to raise productivity is to intensify labor and the workday, and this is to be accomplished by raising output norms and increasing the number of machines each worker operates (downsizing the labor force will also reduce production costs).[102] It appears that Blitsau takes steps to implement the rationalization campaign at Prokatchik. When he reports to a general meeting of the cell that, in contrast to the previous half-year, Prokatchik has not yet, in the second half of the year, attained "the productivity of labor required in a proletarian state," he orders that the eight-hour day be "utilized to the fullest extent possible" and that greater care and attention be given to achieving "maximum output."[103] This kind of intensification of labor fuels workers' opposition to the party.

After overcoming initial organizational hurdles (on account of the meeting's members being overburdened with other party work and his own vacation in September), Ioganson seems to try to follow Blitsau's directive to a tee. Each time the director calls for the raising of labor productivity, Ioganson follows suit in the production meetings, with the very same rhetoric. When Blitsau presents a report on the current state and future prospects of Prokatchik's rationalization campaign, it is decided by the meeting of the party cell bureau that, in order to execute Blitsau's findings, Prokatchik needs monthly production meetings and, furthermore, production circles *(proizvoditel'nye kruzhki).*[104] To assist in this, a production commission *(proizvodstvennaia komissiia)* is set up, comprising the original thirteen members of the production meeting and a representative from each of the shops—foundry workers, rollers, capsule-makers, sorters, finishers, packers, and the repair brigade.[105] This may be interpreted as a clear attempt to unite the shops in implementing an across-the-board rationalized system of production—in overcoming, that is, not only any residual artisanal modes of production but also the kind of "shop consciousness" or "narrow professionalism" *(tsekhovshchina)* that such modes have stimulated.[106] It aims to eliminate discrepancies between shops and to mitigate the powerful influence of shop foremen, whose floor supervision has up to this time included tasks like hiring and the setting of norms.[107]

The first priority of the cell's three-month "work plan" for the winter of 1924–25 is the "raising of the productivity of labor" through strengthening the leadership role of the production commission's executive body (comprising Ioganson and two others) and the production meetings themselves. Meetings of workers are to be held, at which reports on all questions pertaining to the raising of labor productivity are to be read and discussed in a

free exchange between workers and management. Another priority is a campaign among nonparty workers to ensure that questions of production are being systematically and constantly addressed even by those outside the party; to this end, the plan calls for a program of reports by skilled workmen in the shops *(tsekhovye mastera)*, by the production commission, and by Blitsau.[108]

Ioganson quickly follows up on the cell's work plan with a detailed presentation, before a general meeting of the cell, on the production commission's work to date. Of the eighty or so audience members, a third are nonparty workers, which implies that the commission has a bipartisan aspect to some extent. Ioganson informs the meeting that, having familiarized itself with the kind of role it will play in production, the commission will fulfill its responsibility to assist in the raising of productivity and gradually eliminate any shortcomings in the production process that may stand in the way of the execution of this policy. Other bureau members add to the "raising of productivity" chorus. One attendee, identified only as Arkhipov, urges the production commission to set up a NOT cell within Prokatchik[109]—a problematic call, since the time-motion studies that are central to NOT cells often precede the raising of output norms and thus might undermine workers' support of the production commission.[110]

The commission's *protokoly* suggest that its most active period is the winter of 1924–25, during which time it addresses itself, almost exclusively, to the issue of production norms—that is, to the scaling of wages in relation to output. The party's productivity campaign favors the introduction of piece-rate, rather than time-based, wages, a controversial policy that encounters much resistance among workers. Again, in this matter Ioganson's commission seems to follow just one step behind the factory's management, almost as though it were its assistant.[111]

In January 1925, Blitsau reports to the cell on the necessity of raising production norms in the rolling shop. Ioganson comments that this will be difficult as work is poorly distributed among workers, with some having too much, others too little. He reports that his comrades on the floor constantly complain that management fails to keep proper records of both the delivery of raw materials to the shops and the receipt of finished goods from it. Proper record keeping, Ioganson suggests, would enable the correct distribution of work among those on the floor and would thus mitigate opposition in the shop to the raising of its norms.[112]

On February 8, 1925, Ioganson states that the work of the production commission has successfully diffused the "misunderstanding" ("due to a lack of preliminary discussion" in the commission and in the cell) among the rollers over the proposed raising of their production norms. He reports that the new norms are now in place. The commission's other task at this time has been to redress the shortcomings of the factory's repair brigade, which was hampered not just by the inadequacy of its tools but also by "the negligent attitude of its foreman *[brigadira]*."[113] Apparently, the successful resolution of these two issues gives Io-

ganson grounds for his claim at the cell's next general meeting that between November 1, 1924, and February 13, 1925, his "production commission has worked well."[114]

From the party's point of view, production meetings are designed to diffuse criticism that the proletariat is being made to bear all the burden of economic recovery, by, as Chase argues, "giving the drive for labor intensification the appearance of worker support." The production meetings, therefore, seem to have contained a fundamental contradiction; they invite workers to collude with management in their own exploitation. "While the drive for labor intensification meant greater sacrifices by the working class," Chase writes, "the call for production meetings seemed to be an attempt to enlist workers in their own undoing."[115] In support of this interpretation, historians have traced a continuity, in the party's campaign for the intensification of labor, from the earliest form of party-sponsored worker-initiative, the *subbotnik*, to the production meetings of the mid-1920s, to the *udarnichestvo* of the late 1920s, and finally, to the full-blown phenomenon of *stakhanovizm* (the overfulfilling of work norms).[116]

But where is Ioganson positioned in this contradiction? He agrees to chair the production meetings in June 1924, at a time when Prokatchik is in good shape, if we are to believe Blitsau's stirring report on the factory's tremendous increase in productivity in the first half of 1924. By making this appointment, the cell secures Ioganson's commitment not only to the party's economic policy but also to its political agenda. This commitment, however, embodies all the contradictions that are implicit in the party's compromise solution. On the one hand, in a letter of September 1924, he enthuses that workers are greatly valued by the state, which holds them in high esteem and handsomely rewards their labor;[117] other letters during this period likewise seem to reflect genuine conviction on this front. On the other hand, he seems to have raised no objection to the factory cell's hard party line against Trotsky and the Left Opposition's advocacy of workers' control.[118] This ambivalence again raises the question of whether Ioganson is interested in the production meetings as a forum in which workers' initiatives are encouraged or as a vehicle for his own managerial ambitions; perhaps, as is more likely, it is both.

Blitsau continues through early 1925 to claim high productivity for Prokatchik (and for Metallo-Tekhnik, another Mossredprom enterprise located across the road from Prokatchik and soon to be amalgamated with it),[119] including a three hundred percent profit in some shops and an average wage of 125 rubles.[120] But the days of his management are numbered once it is discovered that the factory has massively overproduced in one shop—the capping shop *(kapsiul'nyi)*—at precisely the moment when the market least demands such production (since vodka is being sealed increasingly with wax and many client enterprises have had their purchasing power cut back). In a report on the "crisis," the deputy director, Gintse, informs the bureau and the production commission that since capsules constitute one third of Prokatchik's production, and as of April 1925 there is a surplus of three million capsules, this affects the economic health of the factory as a whole. Gintse proposes, however, that in-

stead of reducing capsule production, Prokatchik should find new markets outside Moscow, in the provinces and the south. (The rolling shop, Gintse notes, is not facing this problem.[121] In fact, the demand for rolled metal exceeds supply by fifty percent,[122] but for Gintse to draw attention to this imbalance would be to indicate a further failure to direct the factory's resources and its workers' energies effectively.)

Having raised labor productivity, Prokatchik is nonetheless in crisis, its management having failed to make sufficient allowance for the fact that much larger economic forces than those at work within the factory itself necessarily impact upon it. In order to be beneficial, that is, the raising of productivity has to be keyed into planning, and this has not been done. Left by Mossredprom to its own zealous devices, Prokatchik has suffered the kind of managerial incompetence the production meetings are intended to prevent. Somebody has to take the blame, and in June 1925 Mossredprom steps in, fires Blitsau and Gintse (Balashikhin, unscathed, continues on as technical director), and appoints a new director, Shumov.[123] In the changing of the guard, Ioganson loses his main ally in management. Taking a hard line to resolve the crisis, Shumov cuts wages and increases production norms, attempting to lower Prokatchik's prices so as to compete in a market in which the factory is constantly being undersold. All young capsule workers *(kapsiul'shchiki)* are sacked—except for activists *(aktiv)*, who are needed for party work—and the shop itself is converted to another kind of production.[124] After a summer of downsizing, Krasnyi Prokatchik enters a new phase, in which Mossredprom reasserts control over its errant factory.

In October 1925, the factory committee accuses Ioganson's production commission (on which it now has no representation) of having "worked poorly," having held only twelve meetings in all.[125] Indeed, by this time, the production commission seems to have been inoperative for several months. In turn, Ioganson makes a similar counter-accusation to the factory committee concerning *its* work. This is more than mutual mud-slinging. A May 1925 resolution of the TsIK admits that the system of production meetings and commissions has, in general, several "shortcomings" and that it has failed to attract a "really broad strata of workers."[126] Although the TsIK issues new instructions during the summer for its reinvigoration, Ioganson is by this time already caught up with other party work (agitprop and the organization of the factory club[127]), as well as working as the secretary of the bureau of the party cells that have now been established in each shop within the factory.

Ioganson's new job, in fall 1925, as a party activist on the floor is to convince workers in the shops to accept the party's unpopular policy of wage cuts and higher production norms, which is being pushed by the factory committee, a task for which he seems to have little enthusiasm. The factory cell *protokoly* reveal significant tension between Ioganson and cell members from the factory committee.[128] In November 1925, a joint meeting of the cell bureau, the factory committee, and Communists from the rolling shop is held in order to resolve a troublesome political situation in the shop. According to Ioganson's report, the metalrollers, both party and nonparty, resist the raising of production norms, pointing out that, if these are adopted, the metalcutters will, for no justifiable reason, end up earning more

than the rollers. There are threats of a strike. Some of the best rollers quit.[129] Others no longer intend to bother about the quality of their output, Ioganson reports, since they will be underpaid and their health destroyed either way.[130] According to Ioganson, when the new director, Shumov, announced the raised norms and reduced wages in September 1925, the rollers immediately "wanted to put Shumov in a garbage bag and drag him out the factory gates."[131]

It is evident that, despite being a party activist, Ioganson himself feels incapable of justifying the new disparity between rollers and cutters. As a result, he receives a hammering from the cell for failing to diffuse opposition to the party's economic policy on the floor. Smirnov, a member of the factory committee, says: "Ioganson used to work actively *[rabotal aktivno]* before, he used to swear at us constantly about raising labor productivity, but now it seems that his *aktivnost'* has disappeared somewhere." Ioganson's response is to blame the policy: "If there had not been a wage cut, then the rolling shop would have continued to work smoothly." To defend himself against Smirnov's hostile charge of *passivnost'*, he asserts that "it is not easy to convince rollers, who have worked in the factory for thirty-five years, to concede to wage cuts. What I was able to do, I did."[132]

By the end of 1925, Ioganson's party *aktivnost'* increasingly begins to reflect disillusionment with his role—or efficacy—as a production organizer,[133] and at some point in 1926 his Krasnyi Prokatchik story comes to an end as obscurely as it began. His name drops out of the party cell's *protokoly* in March 1926.[134] (Later cell records suggest that his last appearance at one of its meetings is in May or June 1926.[135]) Whether Ioganson resigns from the factory at or around the same time as withdrawing from the cell is unclear. Certainly, as his correspondence reveals, by 1927 he has begun working in another enterprise altogether. It could be that when Krasnyi Prokatchik shuts down for a two-week vacation granted by Mossredprom in May 1926,[136] Ioganson simply never returns to work. Since the factory's future is by this time uncertain—the trust will later amalgamate it with another of its factories[137]—this scenario seems not unlikely. Furthermore, given that the factory cell is the basic unit of party membership, Ioganson's withdrawal from it seems also to constitute, ipso facto, his withdrawal from the Russian Communist Party itself. In the alphabetical listings of the All-Union Party Census ("Vsesoiuznaia Partiinaia Perepis'") for 1926, compiled by the TsIK in January 1927 and serving as the central index of all enrolled party members as of that date, Ioganson's name is not recorded.[138] In March 1927, the Krasnyi Prokatchik cell strikes his name from its list of party members.[139]

Ioganson's Krasnyi Prokatchik story provides evidence for the existence, within the broad contours of the INKhUK's productivist platform, of an alternate model of the *konstruktor* in production—not as a designer of utilitarian objects for mass production, but as an inventor, and then organizer, of the very systems and processes of production. This model is manifest, as we have seen, in his 1923–24 invention of a new machine and system for

metal finishing, and in his organization and chairing of the factory's production meetings from mid-1924 on. Insofar as both his invention and his organizational role at Krasnyi Prokatchik constitute what are known as worker-initiatives—that is, interventions into production from the bench or the shop floor—each of these manifestations of his productivist model seems to address a central preoccupation of the INKhUK Constructivists—namely, the dissolution of the division of labor (in this particular case, the division of mental and manual labor).

At the same time, insofar as Ioganson's interventions directly serve the Russian Communist Party's campaign for the economic rationalization of Soviet industrial production, they also appear to compromise the Constructivists' concerns with the division of mental and manual labor and with the manufacturing division of labor. At the very least, they appear to expose the contradiction of Constructivist theory in praxis. Through its implicit sanctioning of an increased manufacturing division of labor, the party's rationalization campaign—specifically with respect to the raising of labor productivity—shuts down the discussion of alienation. For the INKhUK Constructivists, whose position overall is closer to that of party radicals (than that of party productivists), the question of labor productivity is an urgent one, but secondary to that of the alienation of labor. Ioganson's activity at Krasnyi Prokatchik, which seems to be complicit with the ambition of the factory's red management to keep abreast of the party's rationalization drive, thus reverses the INKhUK's order of priorities: The dissolution of the division of mental and manual labor implied by Ioganson's worker-initiatives at Krasnyi Prokatchik is but a means to the intensification of labor. As such, Ioganson's work at the factory compromises—or at least exposes the contradiction of—the Constructivists' underlying theoretical principles.

THE ARTIST AS ADMINISTRATOR

What are the ultimate consequences of the *konstruktor*'s transformation into an *organizator* at Krasnyi Prokatchik? Ioganson's production commission, as noted earlier, comes under fire in fall 1925 for poor performance, though it seems that such criticism is not atypical: Chase argues that, generally speaking, the production meetings and production commissions of the 1924–26 period are not terribly successful either in raising productivity or in providing a forum for workers' production initiatives, but where they are extremely successful is in supplying the *lenintsy*—those novice party activists who join the Russian Communist Party during the Lenin levy, such as Ioganson—with crucial administrative skills and experience.[140] According to E. B. Genkina, the production meetings play a significant role in the preparation of new cadres or functionaries who eventually occupy responsible posts in the party, in Soviet administration, or in economic or industrial management. In other words, the production meetings facilitate the promotion *(vydvizhenie)* of workers up through the party and state hierarchies.[141] (Lenin argued that such advancement was essential if government by

the proletariat were to be realized, despite anxieties that this would create a "workers' aristocracy" and thereby reintroduce class stratification.[142]) Developing the argument one step further, Sheila Fitzpatrick suggests that the stated objective of the Lenin levy—to make workers at the bench into the majority in the party—is contradicted by a second objective promulgated by the party at the very same time—the transformation of newly enrolled workers into Communist cadres: "faced with a choice between having more Communist workers in the factories and more Communist former workers in the apparats [the machinery of state], the party firmly opted for the latter."[143]

All of this puts a rather provocative spin on our understanding of the fate of the *konstruktor* in production. In the aftermath of his experience at Krasnyi Prokatchik, Ioganson redeploys his labor—read, now, "administrative skills"—in a cooperative enterprise devoted to the organization of leisure and rest. His correspondence indicates that in 1927 he begins working in a recently founded building enterprise, the Workers' Housing and Construction Cooperative Society "Vacation Home" (Rabochee-zhilishno stroitel'noe kooperativnoe tovarishchestvo "Dom otdykha"), which establishes and manages leisure resorts for workers in former palaces and merchant residences across Soviet Russia.[144] While the enterprise is not part of the state apparatus, its raison d'être is found in state policy. In 1921, the Soviet of People's Commissars (Sovet narodnykh komissarov; Sovnarkom) passed a decree granting every worker or employee the right to a free or at least heavily subsidized annual vacation in a communal *dom otdykha* (vacation home), with vacations being allocated through the trade unions. In a letter to his family, Ioganson writes, "I don't know whether, in Latvia, you have *doma otdykha* where workers and employees take their holidays. In Russia, we have a great number of such places—it is a wonderful achievement [of our Soviet way of life]."[145]

By 1925, about five hundred *doma otdykha* have been established. On several occasions, Ioganson has enjoyed the benefits of this system. After installing the Lenin corner, for example, the factory committee at Krasnyi Prokatchik granted him a vacation at a *dom otdykha* in the Crimea. In a letter from the resort, in Sochi on the Black Sea, he banters to his family about swimming, resting, and eating tropical fruits; at one point, he switches from Latvian into Russian to explain that the *dom otdykha* in which he is staying is known, colloquially, as "a repair shop for workers' health" *(remontnaia masterskaia zdorov'ia trudiashchikhsia)*. "You must understand," he writes, "that I am completely content with my life, for were I not, I would not be here but somewhere in your territories. I am content in the sense that I love to work . . . here good workers are truly valued, well recognized, highly esteemed and lucratively rewarded. My month of vacation here in the Caucuses is the very proof of it."[146]

In early January 1929, Ioganson becomes the director of Pavlishchevo, one of the cooperative's large country estates, about two hundred kilometers from Moscow in Kaluzhskaia *guberniia*. The estate includes a palace and a "fake park full of statues," as Ioganson puts it, set within a dense pine forest, with a river nearby for swimming. His staff numbers more than fifty, he draws a handsome salary that enables him to have suits cut in English cloth at

ten times the price of something off the rack, and in summer 1929 he hosts 250 workers and employees on vacation, a figure he hopes to increase to one thousand the following year. He jokes that "the only concern that exists in our Soviet Russia is the managing of this estate in 'high style.'"[147]

While upward mobility of an administrative kind characterizes the aftermath of the *konstruktor*'s productivist trajectory, it is far from his original motivation. After successfully penetrating the web of managerial resistance typically encountered by his productivist colleagues in their endeavor to enter industrial production, he is, at Pavlishchevo, folded back into that very realm of leisure from which the INKhUK Constructivists—himself included—fought so hard to disassociate themselves. This return to leisure has a certain vengeance about it, however, for it carries within it what the poet-turned-metalcutter-turned-social engineer Gastev exhorts as "the productivist orientation" *(proizvodstvennaia ustanovka)* originally developed for the purposes of the rationalization of labor organization. If leisure and rest have been hitherto defined within the realm of everyday life—and thus, importantly, as realms of *unorganized* activity—in the "repair shop for workers' health" they are now subject to collective organization and administration, according to a timetable, like labor itself. "Even when we go out the factory gates," Gastev declares, "even then we carry within ourselves a productivist orientation. We are already so responsive to everything around us, that this [other] environment becomes for us nothing other than a specific series of orientations. . . . our . . . method permits us to do one thing only—to relentlessly revolutionize everything that exists, even beyond the factory . . . whether this is a matter of everyday life or . . . of culture in general."[148]

Conclusion

CONSTRUCTIVISM IN REVOLUTION

> You never know where you are with production; production is the *unforeseeable*. You never know what's going to come out.
>
> BERTOLT BRECHT, as reported by Walter Benjamin (1938)

This book reads Constructivism against the grain in three major respects. First, where Constructivism is typically considered to be at its most "formalist"—in the abstractions of the laboratory period—I have tried to show the politics of those forms by contextualizing its discourse of motivation within the utopian project and immediate exigencies of the new Bolshevik state. Second, where Constructivism is conventionally thought to be at its most "functionalist"—in the programmatic orientation of its productivist platform to the utilitarian object—I have endeavored, on the one hand, to draw out a contrary tendency toward nondeterminism, and, on the other, to trace an alternate orientation to process rather than product by examining some of Constructivism's hitherto least-examined articulations. Third, where Constructivism is considered most to have "failed"—in the fulfillment of its ambition to enter production—I have tried to complicate this perception by presenting a detailed case study of how a Constructivist in fact succeeds in operating within the industrial environment. (I say "complicate" rather than "refute" because my case study reveals both the success *and* the failure of that operation.)

Of these problems—formalism, functionalism, and failure—it is the question of failure that feels the most urgent, no doubt due to the frequency with which one hears that word uttered not only with respect to the Constructivist enterprise, but also—and especially since the collapse of communism in 1989–91 and the apparent triumph of western democratic theory—in connection with the larger Soviet experiment of which it is part. With regard to the particularities of my story of the *konstruktor* in production, it is certainly the case that Ioganson succeeds insofar as he instantiates at Krasnyi Prokatchik a process-oriented produc-

tivist platform in his invention of a production apparatus and in his role in the organization of production itself. To the extent that each of these activities compromises Constructivism's endeavor to dissolve the division of labor, however, he must be said also to fail.

But there is nothing inevitable about the *konstruktor*'s failure. On the contrary, I have tried to account for that failure in historical rather than teleological terms, arguing that the attempt to realize Constructivism in production fails not on account of something internal to its utopian aspirations, but because those aspirations encounter and are defeated by much more powerful forces—chiefly those of a party productivism that, in its massive effort to modernize the Soviet industrial infrastructure, compromises much of its own socialist utopia. Similarly, the post-Prokatchik story of our *konstruktor*—his administrative role in the production of leisure—is not so much the legacy of his Constructivism as the fallout of its disastrous encounter with the party's rationalization campaign. None of this is to deny the latency of social engineering within Constructivism—a condition it shares with most other modernisms similarly convinced of the emancipatory potential of technological change—but rather to provide a historical account of why that particular latency (rather than any other) becomes dominant in Constructivism's industrial manifestation and its aftermath.

If, empirically speaking, Constructivism in revolution ends in a certain defeat, its historical story does not conclude there, for the Constructivist project of revolutionary transformation constitutes not only an empirical phenomenon but also the opening of a line of historical inquiry and philosophical possibility. In other words, the meaning and significance of the gritty details of Constructivism discussed in this book are not exhausted, or saturated, in the historical context of its emergence; rather, they circulate and then reappear in a series of concerns that are distant from its original moment and conception. Each of the problems with which this story of Constructivism wrestles—formalism, functionalism, and failure—has its own afterlife, offering us access to myriad other presents. "History," to borrow from the formalist theoretician Boris Eikhenbaum, "is a special method of studying the present with the aid of the facts of the past."[1]

The Constructivist experiment is thus exemplary, first, for historians of modernity, particularly those endeavoring to configure the relationship between formal and political experiments, such as scholars of modernism and the rise of machine culture, and, in a more theoretical domain, those working under the influence of various post-1968 attempts (in early issues of *Artforum, Diacritics, Macula, October, Screen, Tel Quel,* and so forth) to link a history of radical, impersonal form to a history of radical politics. Second, to the extent that Constructivism reveals a critique of—or at least nuances—the doctrine of functionalism on which it is otherwise programmatically based, it is paradigmatic for any attempt to disentangle the theories and practices of modernist architecture from their historiographical overdetermination as theories and practices of functionalism, a reduction common not only among apologists for modernism but also among its postmodern critics.

Third, notwithstanding the defeat of Constructivism in the industrial arena, the fundamental desire of its pioneering platform—to reconfigure the role and efficacy of the artist in revolution—finds a series of extraordinary resonances, both near and far. Among these is the figure of the "operative sketchwriter" *(ocherkist-operativnik),* a model for cultural practice that Sergei Tret'iakov fashions out of his experience as a writer-in-residence on a *kolkhoz* (collective farm) in 1928–30.[2] Along with Osip Brik, Aleksandr Rodchenko, and other figures in our story, Tret'iakov is a member of the group of futurist, Constructivist, and productivist artists and writers known as the Left Front of the Arts (Levyi front iskusstva; LEF), whose journals of the 1920s—*Lef* (1923–25) and its reincarnation, *Novyi lef* (1927–28)—renew Constructivism's productivist platform by reorienting it away from industrial production and toward the inauguration of collective modes of distribution and consumption, and the invention of documentary, reportage, or "factographic" practices involving technologies of mechanical reproduction.[3] According to Tret'iakov, the operative sketchwriter transcends even the radical documentary practices of the factographer through his or her direct participation in the "life of the material" in an *organizational* capacity.[4] The best example of this new model is Tret'iakov himself, who, in residence at the Kommunisticheskii Maiak *kolkhoz,* is involved in more or less every level of the collective's daily operations.[5] Within this different landscape and moment of the revolution, we thus reencounter the promise of our *konstruktor* in the factory, now reconfigured as an *operativnik* on the farm.

A little farther away, and across the border, the figure of the *konstruktor*-turned-*operativnik* then finds its own afterlife, in turn, in the form of a new model of the leftist writer theorized by Benjamin in 1934, in the first year of his Paris exile. Benjamin's author as producer *(Produzent)* is a writer (or artist or composer or photographer or intellectual) who acknowledges his or her lack of effective control over the means of cultural production under capital and then invents new strategies—progressive technologies of making—by which to regain that control, thereby transforming the existing relations of cultural production. Thus reconfigured, the author's work is "never . . . merely work on products," Benjamin argues, "but always, at the same time, work on the means of production. . . . his products must have, over and above their character as works, an organizing function."[6] Through this organizing function, he suggests, the author as producer will overturn those pivotal dichotomies of bourgeois aesthetic experience founded on the division of labor, such as producer and consumer, performer and spectator, writer and reader, individual and collective. Benjamin offers his reconfiguration of the author as producer as a polemical contribution to the Parisian Left's rapidly escalating struggle against fascism. In invoking Tret'iakov's *operativnik* as his most concrete exemplar,[7] Benjamin calls upon a vanguard model of Soviet cultural production developed in the late 1920s to now assist the Left—both French and exiled germanophone authors—in its formulation of an efficacious response to the spread of fascism in France. Specifically, Benjamin hopes to arrest the Left's ever-increasing embrace,

in the mid-1930s, of Soviet socialist realism as the only possible counter to an aesthetics of fascism.[8]

Still farther away, but as if marking Constructivism's place, Benjamin's author-as-producer essay itself plays a constitutive role in enabling Constructivism's reach into the deep far and wide—into the theories and practices of cultural production today: When they invented Constructivism, they did not exactly know then how they—and we—would use it.

GLOSSARY AND ABBREVIATIONS

chast'	police district
Cheka	Extraordinary Commission for Combating Counter-Revolution and Sabotage (Chrezvychainaia komissiia po bor'be s kontrrevoliutsiei i sabotazhem; ChK)
faktura	texture, facture, material, workmanship
GAKhN	State Academy of Artistic Sciences (Gosudarstvennaia akademiia khudozhestvennykh nauk), Moscow
GINKhUK	State Institute of Artistic Culture (Gosudarstvennyi institut khudozhestvennoi kul'tury), Petrograd
GOELRO	State Commission for the Electrification of Russia (Gosudarstvennaia komissiia po elektrifikatsii Rossii)
guberniia	province
iacheika	party cell
INKhUK	Institute of Artistic Culture (Institut khudozhestvennoi kul'tury), Moscow
IZO	Department of Fine Arts (Otdel izobrazitel'nykh iskusstv)
kolkhoz	collective farm
Komfut	Communists and Futurists (Kommunisty-futuristy)
LATKhUK	Commune of Latvian Artists (Latyshskaia khudozhestvennaia kommuna)
LEF	Left Front of the Arts (Levyi front iskusstva)
MLK	Moscow Linguistic Circle (Moskovskii lingvisticheskii kruzhok)
Mossovet	Moscow Soviet of Workers' and Soldiers' Deputies (Moskovskii sovet rabochikh i krasnoarmeiskikh deputatov)
Mossredprom	Moscow Trust of Middle and Light Industry (Moskovskii trest srednei i melkoi promyshlennosti)
MOVIU	Moscow District Military Engineering Directorate (Moskovskoe okruzhnoe voenno-inzhenernoe upravlenie)
MSNKh	Moscow Soviet of National Economy (Moskovskii sovet narodnogo khoziaistva)
MZhK	Museum of Painterly Culture (Muzei zhivopisnoi kul'tury), Moscow

Narkompros	People's Commissariat of Enlightenment (Narodnyi komissariat prosveshcheniia)
NEP	New Economic Policy (Novaia ekonomicheskaia politika)
NOT	Scientific Organization of Labor (Nauchnaia organizatsiia truda)
oblast'	province
OBMOKhU	Society of Young Artists (Obshchestvo molodykh khudozhnikov)
OPOIAZ	Society for the Study of Poetic Language (Obshchestvo izucheniia poeticheskogo iazyka)
pereulok	lane, narrow street
ploshchad'	square
proizvodstvennoe iskusstvo	production art; art of production
Proletkul't	Proletarian Culture (Proletarskaia kul'tura)
protokoly	minutes
proun	project for the affirmation of the new *(proekt utverzhdeniia novogo)*
RAKhN	Russian Academy of Artistic Sciences (Rossiiskaia akademiia khudozhestvennykh nauk), Moscow
RKP(b)	Russian Communist Party (Bolsheviks) (Rossiiskaia Kommunisticheskaia partiia [bol'shevikov])
RSFSR	Russian Soviet Federal Socialist Republic (Rossiiskaia Sovetskaia Federativnaia Sotsialisticheskaia Respublika)
rulon	roll of photographs spliced together
spets, pl. *spetsy*	bourgeois specialist (i.e., a member of the non-Communist intelligentsia)
stankovizm	easelism
SVOMAS	State Free Art Studios (Gosudarstvennye svobodnye khudozhestvennye masterskie)
SVOMAS I	First State Free Art Studios (Pervye gosudarstvennye svobodnye khudozhestvennye masterskie), Moscow
TsIK	Central Executive Committee (Tsentral'nyi ispolnitel'nyi komitet)
TsIT	Central Institute of Labor (Tsentral'nyi institut truda), Moscow
ulitsa	street
Vesenkha	Supreme Soviet of National Economy (Vysshii sovet narodnogo khoziaistva)
VKhUTEMAS	Higher State Artistic and Technical Workshops (Vysshie gosudarstvennye khudozhestvenno-tekhnicheskie masterskie), Moscow
VNIITE	All-Union Scientific Research Institute for Technical Aesthetics (Vsesoiuznyi nauchno-issledovatel'skii institut tekhnicheskoi estetiki), Moscow
VTsSPS	All-Union Central Trade Union Council (Vsesoiuznyi tsentral'nyi sovet professional'nykh soiuzov)
zavkom	factory committee *(zavodskii komitet)*

GENERAL ABBREVIATIONS

f.	*fond* (archival or record group)
op.	*opis'* (inventory or shelf list)

ed. khr.	*edinitsa khraneniia* (storage unit)
d., dd.	*delo, dela* (file[s])
l., ll.	*list, listy* (folio[s], leaf[s], sheet[s])
ob.	*oborotnaia storona* (verso)

ARCHIVE ABBREVIATIONS

GARF	State Archive of the Russian Federation (Gosudarstvennyi arkhiv Rossiiskoi Federatsii), Moscow
OR GTG	Manuscript Division, State Tret'iakov Gallery (Otdel rukopisei, Gosudarstvennaia Tret'iakovskaia galeria), Moscow
RGALI	State Russian Archive of Literature and Art (Rossiiskii gosudarstvennyi arkhiv literatury i iskusstva), Moscow
TsGAMO	Central State Archive of Moscow *oblast'* (Tsentral'nyi gosudarstvennyi arkhiv Moskovskoi oblasti), Moscow
TsGAOD g. Moskvy	Central State Archive of Social Movements of the City of Moscow (Tsentral'nyi gosudarstvennyi arkhiv obshchestvennykh dvizhenii g. Moskvy), Moscow
TsMAM g. Moskvy	Central Municipal Archive of the City of Moscow (Tsentral'nyi munitsipal'nyi arkhiv g. Moskvy), Moscow

SOURCE ABBREVIATIONS

DiM	Oswald Spengler, *Den'gi i mashina,* trans. German Genkel' (Petrograd: Mysl', 1922)
DW, I	Oswald Spengler, *Der Untergang des Abendlandes: Umrisse einer Morphologie der Welt-Geschichte* (Vienna: Wilhelm Braumüller, 1918), trans. Charles Atkinson as *The Decline of the West,* vol. I (New York: Alfred A. Knopf, 1986 [1926])
DW, II	Oswald Spengler, *Der Untergang des Abendlandes,* vol. II (Munich: C. H. Beck, 1922), trans. Charles Atkinson as *The Decline of the West,* vol. II (New York: Alfred A. Knopf, 1980 [1928])
FB	Oswald Spengler, *Filosofiia budushchego* (Ivanovo-Voznesensk, 1922)
OM	Nikolai Tarabukin, *Ot mol'berta k mashine* (Moscow: Rabotnik prosveshcheniia, 1923)
P	Oswald Spengler, *Pessimizm?,* trans. German Genkel' (Petrograd: Academia, 1922)

NOTES

INTRODUCTION

1. Walter Benjamin, "Moscow," *Die Kreatur* (1927), trans. Edmund Jephcott, in Benjamin, *Selected Writings,* vol. 2, trans. Rodney Livingstone et al., ed. Michael W. Jennings, Howard Eiland, and Gary Smith (Cambridge, Mass.: Belknap Press of Harvard University Press, 1999), 28–29.

2. Karlis Johansons (Karl Ioganson), Petrograd, to Rosalija Johansons, Cesis, June 19, 1918, autograph, 10 pp., Berkholce collection, Cesis. Unless otherwise noted, all translations in this book are by the author. (Citations to Ioganson's letters are to Russian translations of the Latvian originals, prepared for the author by Irēna Bužhinska in Riga and Iana Markov and Edita Simonova in Moscow.)

3. Karlis Johansons (Karl Ioganson), Moscow, to the Johansons family, Cesis, April 3, 1922, autograph, 4 pp., Berkholce collection, Cesis.

4. With the proliferation of competing Constructivisms at home and abroad around 1922, certain members of the Moscow group will rename themselves, retroactively, as the *First* Working Group of Constructivists (*Pervaia* rabochaia gruppa konstruktivistov) and backdate the group's inception to December 1920. See [Aleksei Gan?], "Konstruktivisti," *Ermitazh,* no. 13 (August 1922), 3.

5. [Nikolai Tarabukin et al.?], "Institut khudozhestvennoi kul'tury," *Russkoe iskusstvo,* nos. 2–3 (1923), 88. Since this unsigned article is an expanded version of a report initially drafted by Tarabukin (as academic secretary), and then revised by Aleksei Babichev and Boris Arvatov, I have provisionally attributed it to Tarabukin et al.; GARF f. 4655, op. 1, d. 279, ll. 4, 8, 52–53ob.

6. Boris Arvatov, *Iskusstvo i klassy* (Moscow and Petrograd: Gosudarstvennoe izdatel'stvo, 1923), 87.

7. [Aleksei Gan et al.], "Programma rabochei gruppy konstruktivistov INKhUKa" (1921), in Selim Khan-Magomedov, *INKhUK i rannii konstruktivizm* (Moscow: Architectura, 1994), 95–96; trans. James West as "Program of the Constructivist Working Group of INKhUK," in *Art into Life: Russian Constructivism, 1914–1932* (Seattle: Henry Art Gallery, University of Washington, 1990), 67.

8. [Tarabukin et al.?], "Institut khudozhestvennoi kul'tury," 88. The term *stankovizm* is formed by the addition of the suffix *-izm* (-ism) to *stanok* (easel). In standard usage, the adjective *stankovaia* (easel) modifies the noun *zhivopis'* (painting) in order to denote easel painting as opposed to, say, fresco. The pejorative compound "easelism" appears to be the Constructivists' lexical invention.

9. See Benjamin H. D. Buchloh, "From Faktura to Factography," *October,* no. 30 (Fall 1984), 83–118; Leah Dickerman, "Aleksandr Rodchenko's Camera-Eye: Lef Vision and the Production of Revolutionary Consciousness" (Ph.D. diss., Columbia University, 1997); and idem, "The Propagandizing of Things," in Magdalena Dabrowski, Leah Dickerman, and Peter Galassi, *Aleksandr Rodchenko* (New York: Museum of Modern Art, 1998), 63–99; and Hubertus Gassner, *Rodčenko: Fotografien* (Munich: Schirmer/Mosel, 1982).

10. Christina Lodder, *Russian Constructivism* (New Haven, Conn.: Yale University Press, 1983), 3, 72; see also idem, "The Transition to Constructivism," in *The Great Utopia: The Russian and Soviet Avant-Garde, 1915–1932* (New York: Guggenheim Museum, 1992), 276–77.

11. Roland Barthes, "The Structuralist Activity" (1963), in his *Critical Essays,* trans. Richard Howard (Evanston, Ill.: Northwestern University Press, 1972), 214–15.

12. See, especially, Yve-Alain Bois, "Malevitch, le carré, le degré zéro," *Macula,* no. 1 (1976), 28–49; and idem, "Strzeminski and Kobro: In Search of Motivation," in his *Painting as Model* (Cambridge, Mass.: MIT Press, 1990), 123–55.

13. Nikolai Tarabukin, *Opyt teorii zhivopisi* (Moscow: Vserossiiskii proletkul't, 1923), 33.

14. I have analyzed the process of this transformation in "*Faktura:* The Making of the Russian Avant-Garde," *RES: Journal of Anthropology and Aesthetics,* no. 36 (Autumn 1999), 32–59.

15. Varvara Stepanova, "25 noiabria-chetverg" (1920), in her *Chelovek ne mozhet zhit' bez chuda: Pis'ma, poeticheskie opyty, zapiski khudozhnitsy* (Moscow: Izdatel'stvo Sfera, 1994), 148.

16. Anatolii Mazaev, *Kontseptsiia "proizvodstvennogo iskusstva" 20-kh godov* (Moscow: Nauka, 1975), 6.

17. Konstantin Miklashevskii, *Gipertrofiia iskusstva* (Petrograd: Academia, 1924), 58.

18. Elena Sidorina, a former student in the Department of the History and Theory of Design, recalls that the administrative authority of the Committee for Science and Technology had an impact on the department's scholarship, insofar as its validity was often assessed in terms of its relevance to the immediate concerns of the national economy (Elena Sidorina, in conversation with author, Moscow, May 19, 1994).

19. Lodder, *Russian Constructivism,* 73.

20. See Christina Kiaer, "Les objets quotidiens du constructivisme russe," *Cahiers du Musée national d'art moderne,* no. 64 (Summer 1998), 30–69; and idem, "The Russian Constructivist Flapper Dress," *Critical Inquiry* 28, no. 1 (Autumn 2001), 185–243.

21. Nikolai Tarabukin, *Ot mol'berta k mashine* (Moscow: Rabotnik prosveshcheniia, 1923), 33. The entirety of the text has been translated into French in two separate editions (by Andrei Nakov and Gérard Conio, respectively), Catalan (by Rosa Feliu and Patricio Vélez), and English (by Albina Orieva: see *Russian Avant-Garde 1910–1930: The G. Costakis Collection,* ed. Anna Kafetsi, 2 vols. [Athens: Ministry of Culture, National Gallery, and Alexandros Soutzos Museum; Delphi: European Cultural Center of Delphi, 1995], vol. 2, 696–707). This last is unfortunately below par, but the first twelve sections of the text (roughly a third) are available in an excellent English translation by Christina Lodder in *Modern Art and Modernism: A Critical Anthology,* ed. Francis Frascina and Charles Harrison (London: Harper and Row, 1982), 135–42.

22. Iurii Tynianov, "The Literary Fact" (1924), trans. Ann Shukman in *Modern Genre Theory,* ed. David Duff (Harlow, Essex: Pearson Education, 2000), 33.

23. Famously, Tatlin regularly contests the appellation "Constructivist" in relation to himself and his work. With regard to Lissitzky—who lives abroad for most of the early 1920s and is associated with a great variety of vanguard movements—art and architectural historians have been arguing for years about whether or not he should be considered a Constructivist. The problematic issue of border-policing aside, it is also worth noting that there is a substantial literature in several languages on both artists.

24. Two fine examples of circle studies are Barbara Brigitte Walker, "Maximilian Voloshin's *House of the Poet:* Intelligentsia Social Organization and Culture in Early Twentieth Century Russia" (Ph.D. diss., University of Michigan, 1994); and Jindrich Toman, *The Magic of a Common Language: Jakobson, Mathesius, Trubetzkoy, and the Prague Linguistic Circle* (Cambridge, Mass.: MIT Press, 1995).

25. Walter Benjamin, "The Author as Producer" (1934), trans. Edmund Jephcott, in Benjamin, *Selected Writings,* vol. 2, 768–82. I return to this essay in the conclusion to this book, but one small clarification for now: it would be misleading to conflate Benjamin's "producer" *(Produzent)* with the Constructivists' "production worker" or "industrial worker" *(proizvodstvennik),* not because the Russian word cannot be translated as "producer"—indeed it can—but because Benjamin's usage of the

term "producer" refers not to any category of labor per se (that is, he does not exhort the artist's entry into industrial production in particular), but rather to a class position or, more accurately, positioning, under capitalist relations of production. For Benjamin, following his friend Bertolt Brecht, a producer is one who is deprived of ownership or effective control over the means of production. If leftist writers wish to contribute to the class struggle, Benjamin argues, they must first recognize the condition of deprivation that they share with the working class—that their labor under capital is *proletarianized.*

26. V. Khrakovskii, "Preniia po dokladu t. Stepanovoi 'O konstruktuvizme' 22 dekabria 1921 g.," December 1921, 13 pp., Khan-Magomedov collection, Moscow; trans. James West as "Transcript of Discussion of Comrade Stepanova's Paper 'On Constructivism,' December 1921," in *Art into Life,* 75.

27. See Maria Gough, "Paris, Capital of the Soviet Avant-Garde," *October,* no. 101 (Summer 2002), 53–83.

CHAPTER 1: COMPOSITION AND CONSTRUCTION

An earlier version of this chapter appeared as "Composition et construction: les fondements rhétoriques du constructivisme russe," *Cahiers du Musée national d'art moderne,* no. 73 (Autumn 2000).

1. The city of St. Petersburg is referred to by the name according to which it is known during the period under discussion: St. Petersburg (until 1914); Petrograd (1915–1924); Leningrad (1924–1992); and again St. Petersburg (1992–present).

2. Kazimir Malevich, *Ot kubizma i futurizma k suprematizmu: Novyi zhivopisnyi realizm,* 3d ed. (Moscow, 1916), reprinted in *Kazimir Malevich: Stat'i, manifesty, teoreticheskie sochineniia i drugie raboty. 1913–1929,* 5 vols., ed. Aleksandra Shatskikh (Moscow: Gileia, 1995), vol. 1, 53; trans. John Bowlt as "From Cubism and Futurism to Suprematism: The New Painterly Realism," in *Russian Art of the Avant-Garde: Theory and Criticism,* ed. John Bowlt, rev. and enl. ed. (New York: Thames and Hudson, 1988), 133.

3. Nikolai Tarabukin, *Ot mol'berta k mashine* (Moscow: Rabotnik prosveshcheniia, 1923), 5: "One can say that the 'saturation' [*'nasyshchennost'"*] of the canvas with painterly content *[zhivopisnym soderzhaniem]* lies in inverse proportion to the degree of thematic content *[soderzhaniiu siuzhetnomu].*"

4. See Yve-Alain Bois, "The Definitive Malevich," *The Journal of Art* (November 1990), 11.

5. *Russian Avant-Garde Art: The George Costakis Collection,* gen. ed. Angelica Zander Rudenstine (New York: Harry N. Abrams, 1981), 110–27 (cat. nos. 65–70, 72–74, 76, 78–80, 82–97). On the collector and his collection, see Georgii Kostaki, *Moi avangard: Vospominaniia kollektsionera* (Moscow: Modus Graffiti, 1993); and also Peter Roberts, *George Costakis: A Russian Life in Art* (Ottawa: Carleton University Press, 1994).

6. The portfolio was shown in its entirety in 1981 in the Solomon R. Guggenheim Museum's exhibition of the Costakis collection (Margit Rowell and Angelica Rudenstine, *Art of the Avant-Garde in Russia: Selections from the George Costakis Collection* [New York: Solomon R. Guggenheim Museum, 1981]); a decade later in Seattle and Minneapolis (*Art into Life: Russian Constructivism, 1914–1932* [Seattle: Henry Art Gallery, University of Washington, 1990]); in 1992–93 as part of a blockbuster exhibition that traveled to Frankfurt, Amsterdam, New York, Moscow, and St. Petersburg (*The Great Utopia: The Russian and Soviet Avant-Garde, 1915–1932* [New York: Guggenheim Museum, 1992]); and most recently in the 1995–96 exhibition of the Costakis collection at the National Gallery and Alexandros Soutzos Museum in Athens, and at the Haus der Kunst in Munich (*Russian Avant-Garde 1910–1930: The G. Costakis Collection,* ed. Anna Kafetsi, 2 vols. [Athens: Ministry of Culture, National Gallery, and Alexandros Soutzos Museum; Delphi: European Cultural Center of Delphi, 1995], vol. 1).

7. The most detailed account of the INKhUK's foundation is Selim Khan-Magomedov, "INKhUK: Vozniknovenie, formirovanie i pervyi period raboty, 1920," *Sovetskoe iskusstvoznanie* 80, no. 2 (1981), 332–68.

8. See M. Ia. Lapirov-Skoblo, "Novye puti nauki i tekhniki SSSR," in *Nauka i tekhnika v SSSR, 1917–1927,* 2 vols. (Moscow: Rabotnik prosveshcheniia, 1927), vol. 1, 61–62.

9. Quoted in Khan-Magomedov, "INKhUK: Vozniknovenie, formirovanie i pervyi period raboty," 361.

10. Jindrich Toman, *The Magic of a Common Language: Jakobson, Mathesius, Trubetzkoy, and the Prague Linguistic Circle* (Cambridge, Mass.: MIT Press, 1995), 61.

11. The seven other drawings in the portfolio (Rudenstine, *Russian Avant-Garde Art,* cat. nos. 91–97), though produced within the context of the INKhUK, do not pertain to the debate.

12. GARF f. 2306, op. 23, d. 41, l. 97. On the Moscow MZhK, see Svetlana Dzhafarova, "The Creation of the Museum of Painterly Culture," in *Great Utopia,* 474–81; and also Maria Gough, "Futurist Museology," *Modernism / modernity* 10, no. 2 (April 2003), 327–48. Figure 19 documents the museum's temporary installation with paintings designated in January 1920 for transfer to the city of Penza.

13. Reyner Banham offers a useful account of the antagonism in nineteenth-century architectural theory between, on the one hand, composition (the assembly of a building from component volumes) and, on the other, construction (wherein the building's form follows logically from the technical means at the architect's disposal) in his *Theory and Design in the First Machine Age,* 2nd ed. (New York: Praeger, 1967), 14–34. Banham argues that this antagonism was one of modern design's predisposing causes.

14. In delineating the basic contours of the opposition between composition and construction, I have found the following texts helpful: Banham, *Theory and Design in the First Machine Age,* 14–34; Michael Baxandall, "Alberti and the Humanists: Composition," in his *Giotto and the Orators* (Oxford: Oxford University Press, 1971), 121–39; Yve-Alain Bois, "Strzeminski and Kobro: In Search of Motivation," in his *Painting as Model* (Cambridge, Mass.: MIT Press, 1990), 123–55; and Alan Colquhoun, "Composition versus the Project," in his *Modernity and the Classical Tradition: Architectural Essays 1980–1987* (Cambridge, Mass.: MIT Press, 1989), 33–55.

15. Bois has addressed the problem of motivation in numerous publications over the past quarter century; in the present context, see especially, "Strzemiński and Kobro," 123–55.

16. Quoted in Selim Khan-Magomedov, *Rodchenko: The Complete Work,* ed. Vieri Quilici, trans. from the Italian by Huw Evans (Cambridge, Mass.: MIT Press, 1987), 88 n. 8.

17. Roland Barthes, "The Structuralist Activity" (1963), in his *Critical Essays,* trans. Richard Howard (Evanston, Ill.: Northwestern University Press, 1972), 214–15.

18. The most substantial accounts of the debate are: Selim Khan-Magomedov, "Diskussiia v INKhUKe o sootnoshenii konstruktsii i kompozitsii (ianvar'—aprel' 1921 goda)," *Tekhnicheskaia estetika (Trudy VNIITE),* no. 20 (1979), 40–78; Christina Lodder, *Russian Constructivism* (New Haven, Conn.: Yale University Press, 1983), 82–89; Magdalena Dabrowski, "The Russian Contribution to Modernism: 'Construction' as Realization of Innovative Aesthetic Concepts of the Russian Avant-Garde" (Ph.D. diss., Institute of Fine Arts, New York University, 1990), 75–92; and Briony Fer, "The Language of Construction," in Briony Fer, David Batchelor, and Paul Wood, *Realism, Rationalism, Surrealism: Art between the Wars* (New Haven, Conn.: Yale University Press, in association with the Open University, 1993), 96–115. Brief accounts are also available in Rowell and Rudenstine, *Art of the Avant-Garde in Russia,* 25–27, 226–27; and Hubertus Gassner, "The Constructivists: Modernism on the Way to Modernization," in *Great Utopia,* 312–13, 316.

19. Khan-Magomedov, "Diskussiia v INKhUKe," 40–78. Of this extensive body of material, only the interim summaries and conclusions have been translated into English; see *Art into Life,* 63–66.

20. Vasily Kandinsky, *Tekst khudozhnika* (Moscow: Izdanie IZO Narkompros, 1918).

21. Vasily Kandinsky, "Institut khudozhestvennoi kul'tury" (May 24, 1920), GARF f. 2306, op. 23, d. 116, ll. 35–36. Kandinsky reads the program to the conference on June 3, 1920, and its theses are included as a supplement to the proceedings. The conference paper is reprinted, in a much-expanded version, as "Programma instituta khudozhestvennoi kul'tury," in *Sovetskoe iskusstvo za 15 let: Materialy i dokumentatsiia,* ed. Ivan Matsa (Moscow and Leningrad: Ogiz-Izogiz, 1933), 126–39; trans. John Bowlt

in *Kandinsky: Complete Writings on Art,* 2 vols., ed. Kenneth Lindsay and Peter Vergo (Boston: G. K. Hall, 1982), vol. 1, 455–72.

22. Kandinsky, "Institut khudozhestvennoi kul'tury," l. 35.

23. Ibid.

24. "Materialy I-oi Vserossiiskoi konferentsii gosudarstvennykh khudozhestvennykh masterskikh," 1920, GARF f. 2306, op. 23, d. 116, ll. 33, 147–48. See also Narodnyi komissariat prosveshcheniia, Otdel IZO, *Spravochnik* (Moscow: IZO, 1920), 126.

25. Sektsiia monumental'nogo iskusstva, "Oprosnyi list," n.d. [1920], GARF f. 2306, op. 23, d. 105, ll. 13–130b.

26. Kandinsky, *Tekst khudozhnika,* 49 n.

27. Vasily Kandinsky to Hilla von Rebay, New York, July 4, 1936, The Hilla von Rebay Foundation Archive, Solomon R. Guggenheim Museum, New York; quoted in Clark V. Poling, "Kandinsky: Russian and Bauhaus Years, 1915–1933," in *Kandinsky: Russian and Bauhaus Years, 1915–1933* (New York: Solomon R. Guggenheim Museum, 1983), 20.

28. Quoted in Arthur Jerome Eddy, *Cubists and Post-Impressionism* (Chicago: A. C. McClurg, 1914), 126.

29. Nikolai Punin, "O knigakh," *Iskusstvo kommuny,* no. 9 (February 2, 1919), 3.

30. [Nikolai Tarabukin et al.?], "Institut khudozhestvennoi kul'tury," *Russkoe iskusstvo,* nos. 2–3 (1923), 85.

31. Varvara Stepanova, "25 noiabria-chetverg" (1920), in her *Chelovek ne mozhet zhit' bez chuda: Pis'ma, poeticheskie opyty, zapiski khudozhnitsy* (Moscow: Izdatel'stvo Sfera, 1994), 148. Khan-Magomedov argues that the Working Group of Objective Analysis is dissatisfied with Kandinsky less on account of the psychologism and subjectivism of his method and more because of his relative neglect of sculpture and architecture in his attempt to forge a monumental synthesis of the arts ("INKhUK: Vozniknovenie, formirovanie i pervyi period raboty," 359). I would invert Khan-Magomedov's emphasis: the group's main problem with Kandinsky is his psychologism and subjectivism, while the issue of his exclusive interest in painting's relation to the temporal (rather than spatial) arts is rather secondary. This is not to discount the fact that several members of the Working Group are former members of Zhivskul'ptarkh (Painting-Sculpture-Architecture)—a 1919–20 group concerned with forging a synthesis of painting, sculpture, and architecture—but rather to focus on the evidence at hand. Khan-Magomedov himself presents evidence that the synthesis issue is not the core of their dissatisfaction; he states, for example, that Kandinsky feels obliged to refute accusations by members of the Working Group that his Section for Monumental Art does not concern itself with "objective analysis" (360).

32. Nikolai Tarabukin, "Polozhenie o gruppe ob"ektivnogo analiza," n.d., manuscript, private archive, Moscow; quoted in trans. in Lodder, *Russian Constructivism,* 82.

33. Boris Eikhenbaum, "The Theory of the Formal Method" (1925), in *Readings in Russian Poetics: Formalist and Structuralist Views,* ed. Ladislav Matejka and Krystyna Pomorska (Ann Arbor: University of Michigan Press, 1978), 33.

34. See, for example, Roman Jakobson, "The Newest Russian Poetry: Velimir Xlebnikov [Excerpts]," trans. Edward J. Brown, in Jakobson, *My Futurist Years,* ed. Bengt Jangfeldt and Stephen Rudy (New York: Marsilio, 1997), 173–208.

35. Kandinsky and his supporters announce their resignation at a general meeting of the INKhUK on January 27, 1921, citing irreconcilable differences between the Section for Monumental Art's conception of the task, plan, and program of the institute's work and that of the Working Group of Objective Analysis; see Khan-Magomedov, "INKhUK: Vozniknovenie, formirovanie i pervyi period raboty," 360–62.

36. Quoted in Khan-Magomedov, "Diskussiia v INKhUKe," 42. (Hereafter cited in the text by page number only.) See also [Tarabukin et al.?], "Institut khudozhestvennoi kul'tury," 85, where the two tasks are summarized as "theoretical" and "laboratory," respectively.

37. El Lissitzky, "New Russian Art: A Lecture" (1922), trans. in Sophie Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts* (New York: Thames and Hudson, 1980), 336.

38. Bois, "Strzemiński and Kobro," 136.

39. The Working Group's early meetings are attended once or twice by Medunetskii, Krinskii, Aleksandr Drevin, and Nikolai Ladovskii also.

40. Nikolai Rudin, "V galeree S. I. Shchukina v Moskve," n.d., manuscript, RGALI f. 2850, op. 1, d. 9, ll. 1–70b. See also Beverly Whitney Kean, *All the Empty Palaces: The Merchant Patrons of Modern Art in Pre-Revolutionary Russia* (New York: Universe Books, 1983), 211–43.

41. Karlis Johansons (Karl Ioganson), Petrograd, to Tallucis (Rozalija) Johansons, Cesis, June 19, 1918, autograph, 10 pp., Erna Berkholce collection, Cesis.

42. See Tarabukin, *Ot mol'berta k mashine,* 6, 14; Boris Arvatov, *Iskusstvo i klassy* (Moscow and Petrograd: Gosudarstvennoe izdatel'stvo, 1923), 82–83; and especially idem, *Iskusstvo i proizvodstvo: sbornik statei* (Moscow: Proletkul't, 1926), 70: "The new painting shifted from the representational picture to the nonobjective picture. This process ran in two directions. The first of these was expressionism . . . the path of the emotional toying with forms, the path of extreme idealistic individualism. The second direction . . . is directly opposed to the first. This is constructivism (Cézanne—Picasso—Tatlin)."

43. Pushkin State Museum of Fine Arts, Moscow; formerly Sergei Shchukin collection.

44. Detailed discussions of the Tatlin-Picasso exchange are presented in Anatolii Strigalev, "O poezdke Tatlina v Berlin i Parizh," *Iskusstvo,* no. 2 (February 1989), 39–44; idem, "O poezdke Tatlina v Berlin i Parizh," *Iskusstvo,* no. 3 (March 1989), 26–31; and Maria Gough, "*Faktura:* The Making of the Russian Avant-Garde," *RES: Journal of Anthropology and Aesthetics,* no. 36 (Autumn 1999), 42–52.

45. The third organizational principle—rhythm—drops out of the discussion without further explanation in the records of the proceedings, perhaps due to its unwelcome association with expressionism and vitalism.

46. See also Aleksei Babichev, "O konstruktsii i kompozitsii," *Dekorativnoe iskusstvo SSSR,* no. 3 (1967), 18.

47. See also "Vyvody tov. Ladovskogo k analizu poniatii konstruktsiia i kompozitsiia. Protokol No. 12 Sektsiia Otdel. Iskusstva INKhUKa," OR GTG f. 148, op. 1, d. 87, l. 1.

48. According to an editorial note in a collection of Rodchenko's writings and related materials, however, the nucleus of the Constructivist group is formed as early as December 1920, and comprises Rodchenko, Stepanova, and Gan; once Gan becomes an INKhUK member, this nucleus of three develops into the official INKhUK group of seven. Oddly, this editorial note is raised to explicate a manifesto dating to ca. 1922. See "Kto my: Manifest gruppy konstruktivistov" (ca. 1922), in Rodchenko, *Opyty dlia budushchego,* ed. O. V. Mel'nikov and V. I. Shchennikov (Moscow: Grant", 1996), 127–29, and editorial note, 260 n. 2.

49. Tarabukin argues that in one sense the Suprematists were more advanced than their successors because they confronted the problem of "color, which, like sound, is in and of itself not delimited by any representational form" and is, instead, "formless" *(bezobrazen).* (*Ot mol'berta k mashine,* 11).

50. *Tekstura: Russian Essays on Visual Culture,* ed. and trans. Alla Efimova and Lev Manovich (Chicago: University of Chicago Press, 1993), xxiii.

51. Varvara Stepanova, "Construction" ([1921?]), in Alexander Lavrent'ev, *Varvara Stepanova: The Complete Work,* ed. and trans. John Bowlt (Cambridge, Mass.: MIT Press, 1988), 172 (emphasis added). Stepanova makes a similar point in her concluding statement on construction during the debate.

52. *The Poetics of Aristotle,* ed. and trans. S. H. Butcher, 4th ed. (London: Macmillan, 1917), 35 (VIII.4).

53. Lev Tolstoy, *What Is Art?,* trans. Aylmer Maude (Indianapolis: Hackett, 1996), 120 (trans. slightly modified).

54. Natan Al'tman, "'Futurizm' i proletarskoe iskusstvo," *Iskusstvo kommuny,* no. 2 (December 15, 1918), 2. In this essay, Al'tman is anxious to defend the claim (made by the Futurists within IZO Narkom-

pros) that futurism is a proletarian art. He attempts to do this by way of metaphor, pointing to the principle of "collectivity" shared by both the futurist picture and the proletariat. (In the Russian context, "futurist" is a broad term referring to all avant-garde or leftist trends in the visual and literary arts ca. 1912–22; Al'tman himself notes that by "futurism," he means "all the left tendencies of art.")

55. "Matisse interrogé par Apollinaire" (1907), in Henri Matisse, *Écrits et propos sur l'art,* ed. Dominique Fourcade (Paris: Hermann, 1972), 56; quoted in trans. in Roger Benjamin, *Matisse's "Notes of a Painter": Criticism, Theory, and Context, 1891–1908* (Ann Arbor, Mich.: UMI Press, 1987), 201.

56. Henri Matisse, "Notes d'un peintre," *La grande revue* 52 (December 1908), 731–45; trans. as "Zametki khudozhika" in *Zolotoe runo,* no. 6 (1909), I–X.

57. Alexandre Mercereau, "Anri Matiss i sovremennaia zhivopis," *Zolotoe runo,* no. 6 (1909), trans. as "Henri Matisse and Contemporary Art," in *Matisse: A Retrospective,* ed. Jack Flam (New York: Hugh Lauter Levin, 1988), 109.

58. Stepanova is not alone in defining construction in this way. Konstantin Miklashevskii, a critic hostile to the Constructivists, as we saw in the introduction, argues that Aristotle's argument is fully in accordance with the notion of Constructivism (*Gipertrofiia iskusstva* [Petrograd: Academia, 1924], 55).

59. On Rodchenko's designs for the wall lamps, see, inter alia, German Karginov, *Rodchenko* (London: Thames and Hudson, 1979), 91–92.

60. Scholars have proposed various possibilities for the missing drawing (see Rowell and Rudenstine, *Art of the Avant-Garde in Russia,* 243, fig. 201 [Costakis inv. no. C198]; Khan-Magomedov, *Rodchenko,* 85; and also idem, "Diskussiia v INKhUKe," 65). None of these proposed identifications is convincing, however, because the series from which all are drawn is produced, as the artist's numbering and dating on the various sheets attest, in October 1921.

61. Michael Fried, "New York Letter," *Art International* 7, no. 5 (May 1963), 69, 70.

62. Michael Fried, "New York Letter," *Art International* 8, no. 4 (May 1964), 41; see also idem, *Three American Painters* (Cambridge, Mass.: Fogg Art Museum, Harvard University, 1965), esp. 40, 46.

63. Frank Stella, text of a lecture at the Pratt Institute (winter 1959–60), published as an appendix in Robert Rosenblum, *Frank Stella* (New York: Penguin, 1971), 57.

64. See "Questions to Stella and Judd," interview by Bruce Glaser, ed. Lucy Lippard, *Art News* (1966), reprinted in *Minimal Art,* ed. Gregory Battcock (New York: Dutton, 1968), 149.

65. The notion of a "nascent" moment or phase in scientific work is discussed by Gerald Holton, *Thematic Origins of Scientific Thought: Kepler to Einstein,* rev. ed. (Cambridge, Mass.: Harvard University Press, 1988), 6–10.

66. Quoted in trans. in Khan-Magomedov, *Rodchenko,* 83 (trans. slightly modified and emphasis added).

67. Matisse, "Notes d'un peintre," 735; trans. in Benjamin, *Matisse's "Notes of a Painter,"* 202; see also Mercereau, "Henri Matisse and Contemporary Art," 109. As Catherine Bock points out, Matisse inherited this doctrine from Signac (*Henri Matisse and Neo-Impressionism, 1898–1908* [Ann Arbor, Mich.: UMI Press, 1981], 69).

68. Matisse, "Notes d'un peintre," 735: "Composition, the aim of which should be expression, is modified according to the surface to be covered," trans. in Benjamin, *Matisse's "Notes of a Painter,"* 202.

69. Quoted in trans. in Khan-Magomedov, *Rodchenko,* 87 n. 4 (emphasis added).

70. Ibid. (emphasis added).

71. See Viacheslav Koleichuk, "O kontseptual'nom podkhode k formoobrazovaniiu v prostranstvennykh kompozitsiiakh ('podobnye figury') A. Rodchenko," *Tekhnicheskaia estetika (Trudy VNIITE),* no. 4 (1978), 4–6.

72. Quoted in trans. in Khan-Magomedov, *Rodchenko,* 87 n. 4.

73. Quoted in Aleksei Gan, *Konstruktivizm* (Tver': Tverskoe izdatel'stvo, 1922), 65.

74. Ibid.

75. "Rather surprisingly," Kandinsky writes, "crystallography proved to have something in common with painting with regard to construction" ("Programma Instituta khudozhestvennoi kul'tury"

[1920], reprinted in *Sovetskoe iskusstvo za 15 let,* 137; trans. Bowlt in *Kandinsky: Complete Writings on Art,* vol. 1, 470). Although Kandinsky acknowledges the contribution of such positive sciences to the study of art, he cautions that the INKhUK must not seek to find in them any ultimate solution to the problems of art, since, in his view, art, unlike the sciences, concerns the expression of man's inner experience (*Sovetskoe iskusstvo za 15 let,* 138). In contrast to Kandinsky, I should emphasize that Ioganson invokes crystallographic discourse not in order to define construction but rather to demonstrate the excess he deems characteristic of composition.

76. Many thanks to David Veblen at Johns Hopkins University for his crucial advice and bibliographical assistance on the history of crystallography.

77. Tarabukin elaborates his new terminology in *Opyt teorii zhivopisi* (Moscow: Vserossiiskii proletkul't, 1923), 34–37.

78. The art historian A. A. Sidorov, for example, presents on March 16, 1922, a paper entitled "The Terms Composition and Construction in Contemporary Scholarly and Artistic Practice" ("Terminy kompozitsii i konstruktsii v sovremennoi nauchnoi i khudozhestvennoi praktike") in the Section for the Spatial Arts at the State Academy of Artistic Sciences (Gosudarstvennaia akademiia khudozhestvennykh nauk; GAKhN), Moscow. Sidorov's paper is the first in a projected series on the subject for the spring of 1922 (RGALI f. 941, op. 3, d.1, l. 6). In a lecture series at VKhUTEMAS between 1921 and 1924, Pavel Florenskii addresses the same problem of delimitation of composition and construction; see his "Analiz prostranstvennosti v khudozhestvenno-izobrazitel'nykh proizvedeniiakh," *Tekhnicheskaia estetika (Trudy VNIITE),* no. 59 (1989), 131–42. See also D. S. Nedovich, "Konstruktsiia i kompozitsiia v skul'pture," *Iskusstvo,* no. 2 (1925), 212–19. These are just a few examples underscoring the extensive "afterlife" of the INKhUK debate. The concept of construction is also a central topos in the study of literature in the early 1920s: see, for example, Iurii Tynianov, *The Problem of Verse Language,* trans. Michael Sosa and Brent Harvey (Ann Arbor, Mich.: Ardis, 1981), 31–35.

79. Tzvetan Todorov, *Theories of the Symbol,* trans. Catherine Porter (Ithaca, N.Y.: Cornell University Press, 1984), 169–70; see also Colquhoun, "Composition versus the Project," 49–51.

80. Quoted in trans. in Lodder, *Russian Constructivism,* 88–89.

81. Timothy J. Clark, "God Is Not Cast Down," in his *Farewell to an Idea: Episodes from a History of Modernism* (New Haven, Conn.: Yale University Press, 1999), 245 and passim.

82. On the transition from War Communism to the NEP, see, inter alia, Alan Ball, *Russia's Last Capitalists: The Nepmen, 1921–1929* (Berkeley: University of California Press, 1987), 1–12.

83. See Edward Hallett Carr, *The Bolshevik Revolution, 1917–1923,* 3 vols. (New York: MacMillan, 1952), vol. 2, 372–78.

CHAPTER 2: IN THE LABORATORY OF CONSTRUCTIVISM

An earlier version of this chapter appeared in *October,* no. 84 (Spring 1998).

1. Rita Rait-Kovaleva, "'Vse luchshie vospominaniia . . .': Otryvki iz knigi," in *Trudy po russkoi i slavianskoi filologii, IX: Literaturovedenie,* Uchenye zapiski Tartuskogo gosudarstvennogo universiteta, no. 184 (Tartu: Tartuskii gosudarstvennyi universitet, 1966), 275.

2. Ulen (El Lissitzky), "Die Ausstellungen in Russland," *Veshch' Objet Gegenstand,* nos. 1–2 (March–April 1922), 19; trans. Kestusis Paul Zygas, "The Exhibitions in Russia," *Oppositions,* no. 5 (Summer 1976), 127 (trans. slightly modified).

3. See Andrei Nakov, "This Last Exhibition which was the 'First,'" in *The First Russian Show: A Commemoration of the Van Diemen Exhibition, Berlin, 1922* (London: Annely Juda Fine Art, 1983), 43.

4. See Aloïs Riegl, "The Modern Cult of Monuments: Its Character and Its Origin," trans. K. W. Forster and D. Ghirardo, *Oppositions,* no. 25 (Fall 1982), 22.

5. Aleksandr Rodchenko, "O revizii Muzeinogo biuro," June 7, 1921, GARF f. 2306, op. 23, d. 180, l. 28. In this document, a caustic report addressed to Natan Al'tman (director of the Central Section

[Tsentral'naia Sektsiia; TsS] of IZO Narkompros), Rodchenko protests what he considers to be unfair treatment at the hands of the auditors from the Workers' and Peasants' Inspectorate (Raboche-krest'ianskaia inspektsiia; Rabkrin), who were sent to inspect the Museum Bureau's administration and assess, presumably, its future viability.

6. See *Sovetskoe iskusstvo za 15 let: Materialy i dokumentatsiia,* ed. Ivan Matsa (Moscow and Leningrad: Ogiz-Izogiz, 1933), 102.

7. RGALI f. 665, op. 1, d. 23, ll. 152, 153.

8. See Ilya Ehrenburg, *Vse-taki ona vertitsia* (Berlin: Helikon, 1922), 136.

9. For the museum's acquisition records, see RGALI f. 665. Ioganson is hired in the fall of 1919 as the museum's "technical specialist." The idea for a department of experimental technics is instigated by the painter Aristarkh Lentulov, but others are also thinking about it; see, for example, Aleksandr Rodchenko's diary entry for June 15, 1920, "O muzee Eksperimental'noi Tekhniki," in his *Opyty dlia budushchego,* ed. O. V. Mel'nikov and V. I. Shchennikov (Moscow: Grant", 1996), 84–86.

10. Aleksandr Rodchenko, "Raport" (n.d.), RGALI f. 665, op. 1, d. 28, ll. 16–16ob.

11. See Aleksei Gan, "Bor'ba za Massovoe deistvo," in *O Teatre* (Tver': Tverskoe izdatel'stvo, 1922), 49–80; Christina Lodder, *Russian Constructivism* (New Haven, Conn.: Yale University Press, 1983), 243–44; and also *Russian Art of the Avant-Garde: Theory and Criticism,* ed. John Bowlt, rev. and enl. ed. (New York: Thames and Hudson, 1988), 214–15.

12. Several versions of the program exist, both in manuscript and published form (for a summary, see Lodder, *Russian Constructivism,* 281–82 n. 102). All citations in this book are to the version preserved in the collection of Selim Khan-Magomedov: [Gan et al.], "Programma rabochei gruppy konstruktivistov INKhUKa," in Selim Khan-Magomedov, *INKhUK i rannii konstruktivizm* (Moscow: Architectura, 1994), 95–96; trans. James West as "Program of the Constructivist Working Group of INKhUK," in *Art into Life: Russian Constructivism, 1914–1932* (Seattle: Henry Art Gallery, University of Washington, 1990), 67.

13. Stenographic records of four of the group's nine meetings have been preserved, and are transcribed in Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 89–112.

14. [Gan et al.], "Programma rabochei gruppy konstruktivistov INKhUKa," 95–96; "Program of the Constructivist Working Group of INKhUK," 67. (Hereafter cited in the text and notes by page number only, reference to the Russian original preceding that of the English translation [the latter occasionally modified].)

15. Gan, "O programme i plane rabot Gruppy konstruktivistov" (paper presented at a meeting of the Working Group of Constructivists, March 28, 1921), in Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 99. The concept of *tselesoobraznost'* is central to Constructivist theory, but does not translate easily. It suggests a total fit between form and function, for which there are several alternatives, such as "purposefulness," "expediency," or "appropriateness." For a good summary, see Anatolii Mazaev, *Kontseptsiia "proizvodstvennogo iskusstva" 20-kh godov* (Moscow: Nauka, 1975), 154–55.

16. Gan, "O programme i plane rabot Gruppy konstruktivistov," 99.

17. Cf. Gan, *Konstruktivizm* (Tver': Tverskoe izdatel'stvo, 1922), 51–62; and Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 95–96, 98–102, 104–06.

18. Gan, *Konstruktivizm,* 11, 12, 14, 35.

19. Gan (at a meeting of the Working Group of Constructivists, May 4 , 1921), transcribed in Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 106.

20. Gan, *Konstruktivizm,* 53.

21. Ibid., 25.

22. Ibid., 59–60.

23. See also ibid., 61–63.

24. Rodchenko (at a meeting of the Working Group of Constructivists, May 11, 1921), transcribed in Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 110.

25. Ioganson (at a meeting of the Working Group of Constructivists, March 28, 1921), quoted in

Khan-Magomedov, "Konstruktsiia, izobretenie i konstruktivizm: k probleme formirovaniia kontseptsii khudozhestvennogo konstruirovaniia," *Tekhnicheskaia estetika (Trudy VNIITE),* no. 23 (1980), 62.

26. Georgii Stenberg (at a meeting of the Working Group of Constructivists, March 28, 1921), transcribed in Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 102.

27. Rodchenko (at a meeting of the Working Group of Constructivists, March 28, 1921), transcribed in ibid., 100, 101.

28. Gan (at a meeting of the Working Group of Constructivists, March 28, 1921), transcribed in ibid., 101, 102. Cf. Gan, *Konstruktivizm,* 61–62.

29. Stepanova later sets forth a table of *faktura*'s historical evolution in a long "letter" to Gan of January 1922; see Stepanova, "O fakture" (1922), in her *Chelovek ne mozhet zhit' bez chuda: Pis'ma, poeticheskie opyty, zapiski khudozhnitsy* (Moscow: Izdatel'stvo Sfera, 1994), 171–75; trans. Wendy Salmond as "On Facture," in Aleksandr Lavrent'ev, *Varvara Stepanova: The Complete Work,* ed. John Bowlt (Cambridge, Mass.: MIT Press, 1988), 176–77.

30. A brief but useful gloss on the concept is found in *Aleksandr Rodchenko, Varvara Stepanova: The Future Is Our Only Goal,* ed. Peter Noever with essays by Aleksandr Lavrent'ev and Angela Völker (Munich: Prestel, 1991), 256: "the term *[tektonika]* came to stand for the impermanency of material form in an age where advances in technology dictate constant change."

31. See the transcription of their discussions in Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 102–11. See also Stepanova's discussion of the term in her "Konstruktivizm" (1921), in *Chelovek ne mozhet zhit' bez chuda,* 163–69; trans. Matthew Frost et al. as "On Constructivism," in *Aleksandr Rodchenko, Varvara Stepanova: The Future Is Our Only Goal,* 177–78. (This text is a later reconstruction of a lecture Stepanova presents at the INKhUK on December 22, 1921.)

32. Cf. Gan, *Konstruktivizm,* 61.

33. Gan, "O programme i plane rabot Gruppy konstruktivistov," 99–100. In English, "tectonics" refers to the arts of building (from the Greek *tecton*), and only secondarily to the geological sciences. In both the modern and period dictionaries, the Russian *tektonika* seems not to be used in reference to the building arts, but refers exclusively to "the actual structure of the earth's crust that is determined by regular alterations to it" or to "the branch of geology that studies the structure of the earth's crust with regard to its movements and deformations" (see entry in S. I. Ozhegov, *Slovar' russkogo iazyka,* 9th ed. [Moscow: Russkii iazyk, 1977]). The only exception to this rule seems to be in period dictionaries that trace the importation of foreign words into Russian; see, for example, the entry in *Slovar' inostrannykh slov, voshedshikh v sostav russkago iazyka* (New York: Max N. Maisel, 1921), where *tektonika* is defined as the production of "artistic forms from wood, stone, and so forth" *(khudozhestvennykh izobrazhenii iz dereva, kamnia i pr).*

34. Medunetskii (at a meeting of the Working Group of Constructivists, May 11, 1921), transcribed in Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 108.

35. Rodchenko (at a meeting of the Working Group of Constructivists, May 11, 1921), transcribed in ibid., 111.

36. Ioganson and Medunetskii (at a meeting of the Working Group of Constructivists, April 27, 1921), transcribed in ibid., 103.

37. On OBMOKhU, see Aleksandra Shatskikh, "A Brief History of OBMOKhU," in *The Great Utopia: The Russian and Soviet Avant-Garde, 1915–1932* (New York: Guggenheim Museum, 1992), 257–65. In the scant literature on the exhibition itself, Christina Lodder offers the fullest contextualization ("The Transition to Constructivism," in ibid., 266–81), while Hubertus Gassner presents a suggestive taxonomy of Constructivist positions in general ("The Constructivists: Modernism on the Way to Modernization," in ibid., 312–14).

38. Alma Law, "A Conversation with Vladimir Stenberg," *Art Journal* 41, no. 3 (Fall 1981), 224.

39. At least for a certain period, this seems to have been in the cards. In various correspondence, Mikhailova's former gallery is proposed as the new home of the MZhK (and thus of the Constructivists' work), though this would not come to pass (RGALI f. 665, op. 1, d. 13, l. 123; d. 15, l. 110).

40. This conjecture is based upon an examination of a 1914 architectural plan of the second floor of 11 Bol'shaia Dmitrovka, which reveals the layout of the Mikhailova galleries (see fig. 40).

41. Karl Ioganson, "Ot konstruktsii—k tekhnike i izobreteniiu," March 9, 1922, typescript, 3 pp., Khan-Magomedov collection, Moscow; trans. James West as "From Construction to Technology and Invention," in *Art into Life,* 70.

42. Ibid.

43. Nikolai Tarabukin, *Opyt teorii zhivopisi* (Moscow: Vserossiiskii proletkul't, 1923), 33.

44. It is worth noting that the Latvian painter and critic Waldemars Matvejs, who published the first exposition of the notion of *faktura* under the pseudonym Vladimir Markov (see his *Printsipy tvorchestva v plasticheskikh iskusstvakh: Faktura* [St. Petersburg: Soiuz Molodezhi, 1914]), was a figure well known to the inaugural class of the Riga School of Art, of which Ioganson was a part.

45. Tarabukin, *Opyt teorii zhivopisi,* 32. On the problem of *faktura,* see, inter alia, Yve-Alain Bois, "Malevitch, le carré, le degré zéro," *Macula,* no. 1 (1976), 37–38; Margit Rowell, "Vladimir Tatlin: Form / Faktura," *October,* no. 7 (Winter 1978), 91, 94; Benjamin H. D. Buchloh, "From Faktura to Factography," *October,* no. 30 (Fall 1984), 86–87 n. 6 and passim; and Maria Gough, "*Faktura:* The Making of the Russian Avant-Garde," *RES: Journal of Anthropology and Aesthetics,* no. 36 (Autumn 1999), 32–59.

46. See Khan-Magomedov, "Konstruktsiia, izobretenie i konstruktivizm," 59.

47. Museum Bureau, inv. no. 1110 (RGALI f. 665, op. 1, d. 2, l. 30; d. 8, l. 128).

48. See Khan-Magomedov, "Konstruktsiia, izobretenie i konstruktivizm," 63–67. In 1991, Koleichuk was commissioned to reconstruct *VII, VIII,* and *IX* (see figs. 51–52, 56); these were exhibited in the traveling exhibition *The Great Utopia* of 1992–93. For his reflections upon the process, see his "Karl Ioganson—Izobretatel'," in *Velikaia Utopiia* (Moscow: Galart, 1993), 175–76. A second commission, comprising *II* and *VIII* (figs. 47, 53), was completed by Koleichuk in 1993 for the Wilhelm Lehmbruck Museum in Duisburg; see *Europa, Europa: Das Jahrhundert der Avantgarde in Mittel- und Osteuropa* (Bonn: Kunst- und Ausstellungshalle der Bundesrepublik Deutschland, 1994), vol. 1, 204–05.

49. Vladimir Stenberg later recounts that Ioganson's bases were an afterthought (Law, "A Conversation with Vladimir Stenberg," 224–25). This helps to account for Ioganson's rather ill-designed bases (in contrast both to what they support and to those of the Stenberg brothers).

50. In the building sciences, a rigid structure is defined as one in which the sum total of all the forces or stresses acting upon it is zero. The structure of a building, for example, has various forces (or loads or stresses) acting upon it (its own weight, that of its occupants, and environmental factors such as wind). The two main kinds of stresses that occur, and the ones with which Ioganson is concerned, are the forces of tension and compression. Tensile stresses are those that pull on a component, resulting in its elongation (the cable by which an elevator car is raised and lowered is eventually longer than when it is first installed); compressive stresses are those that push, resulting in its shortening (in a high-rise building, the lower floors are increasingly compressed with the addition of each extra floor). In Ioganson's constructions, the wire cables are tension members and the wooden struts are compression members. See Mario Salvadori, *Why Buildings Stand Up: The Strength of Architecture* (New York: Norton, 1990), 59–60.

51. Vladimir Stenberg, interview by Selim Khan-Magomedov, January 21, 1970, Moscow, quoted in Khan-Magomedov, "Konstruktsiia, izobretenie i konstruktivizm," 58. Stenberg is evidently drawing upon the distinction commonly made between structures (for example, buildings), which must resist all forces that would cause them to move (that is, to permanently deform or even collapse), and mechanisms, for which movement is a constitutive principle.

52. Ibid., 63.

53. I am skipping over *V* because it is insufficiently visible.

54. Gan, *Konstruktivizm,* 65.

55. Koleichuk, "Karl Ioganson," 176. (The captions for the reconstructions of *VIII* and *IX* have been inadvertently reversed in his essay [175].)

56. On Moholy-Nagy's kinetic Constructivism, see Moholy-Nagy and Alfred Kemeny, "Dynamic-Constructive System of Forces" (1922), trans. in Krisztina Passuth, *Moholy-Nagy* (London: Thames and Hudson, 1985), 290.

57. Koleichuk, "Karl Ioganson," 176. Koleichuk's language here echoes the descriptive phrase "floating compression" used by Kenneth Snelson, at least since the early 1960s, to refer to his groundbreaking tensegrity structures, on which more below.

58. Ibid. "A tensegrity system is established when a set of discontinuous compressive components [e.g., the rods] interacts with a set of continuous tensile components [e.g., the wires] to define a stable volume in space" (Anthony Pugh, *An Introduction to Tensegrity* [Berkeley: University of California Press, 1976], 3).

59. Quoted in Howard Fox, "Kenneth Snelson: Portrait of an Artist," in *Kenneth Snelson* (Buffalo, N.Y.: Albright-Knox Art Gallery, 1981), 23 n. 1.

60. A letter of March 1, 1922, from Ioganson to the INKhUK's chair, Aleksei Babichev, is signed "from the inventor Ioganson" (typescript, 1 p., Khan-Magomedov collection, Moscow). See also Ioganson, "Ot konstruktsii—k tekhnike i izobreteniiu"; and Sophie Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts* (New York: Thames and Hudson, 1980), 340.

61. Vladimir Shklovsky, "O rodivshikhsia slishkom rano: Sud'ba mekhanikusa Polzunova," *Izobretatel'*, no. 1 (January 1929), 37. (In this essay, Shklovsky—Viktor's brother—describes the fate of the Russian "Watt," one I. I. Polzunov, who apparently invented the "first steam engine in Europe.")

62. As discussed in chapter 1, the term "deductive structure" is borrowed from Michael Fried. With respect to C. S. Peirce's definition of the indexical sign—in which the relationship between the sign and its referent is understood to be causal—I am drawing from Rosalind Krauss, "Notes on the Index: Part 1" and "Part 2" in her *The Originality of the Avant-Garde and Other Modernist Myths* (Cambridge, Mass.: MIT Press, 1985), 195–219; and also Buchloh, "From Faktura to Factography," 89–90.

63. See Gassner, "The Constructivists," 314. Rodchenko's third series, based upon the principle of modularity, is his most explicit contribution to the "systemic" mode of construction developed with Ioganson. None of this series was exhibited in May–June 1921, however, whereas the modular principle governs the entire run of Ioganson's spatial experiments at the OBMOKhU exhibition and is specifically demonstrated by *VI* and *VII*.

64. In the journal *Kino-fot*, of which he is an editor, Aleksei Gan publishes Rodchenko's *Square Hanging Spatial Construction, no. 11* (fig. 59) on the same page as an article about cinematography by the filmmaker Lev Kuleshev ("Kamernaia kinematografiia," *Kino-fot*, no. 2 [September 8–13, 1922], 3). On the facing page appears Boris Arvatov's short essay on "Agit-kino" (2). Although *Kino-fot* seems to be a vehicle for the publication of Rodchenko's work in general (and not just the second series), the insertion of the *Hanging Spatial Construction* within the context of the discussion of cinema is a suggestive one. Gan has called for the factoring into constructions of not just solid materials but also light, and this juxtaposition underscores the kinetic quality of Rodchenko's constructions. See Gan, "O programme i plane rabot Gruppy konstruktivistov," 100. See also *Kino-fot*, no. 4 (October 5–12, 1922), where Rodchenko's *Hexagonal Hanging Spatial Construction, no. 10* (fig. 59; my no. *XXIII*) is reproduced.

65. Quoted in Selim Khan-Magomedov, "Diskussiia v INKhUKe o sootnoshenii konstruktsii i kompozitsii (ianvar'—aprel' 1921 goda)," *Tekhnicheskaia estetika (Trudy VNIITE)*, no. 20 (1979), 59.

66. Gassner, "The Constructivists," 314.

67. Lodder, "The Transition to Constructivism," 276.

68. Ibid.

69. See *Von der Fläche zum Raum* (Cologne: Galerie Gmurzynska, 1974), cat. no. 69.

70. See figure 64, which shows Vladimir Stenberg's towering construction as it is published by Bela Uitz in the Hungarian-language journal *Egység*, no. 2 (June 1922), with the title *Bridge Construction (Hídrészlet-konstrukcio)*.

71. See *Von der Fläche zum Raum*, cat. no. 67.

72. See ibid., cat. no. 64.

73. Quoted in Khan-Magomedov, "Konstruktsiia, izobretenie i konstruktivizm," 57.

74. Nikolai Tarabukin, *Ot mol'berta k mashine* (Moscow: Rabotnik prosveshcheniia, 1923), 10, 17–18.

CHAPTER 3: FORMULATING PRODUCTION

1. [Nikolai Tarabukin et al.?], "Institut khudozhestvennoi kul'tury," *Russkoe iskusstvo*, nos. 2–3 (1923), 88.

2. Nikolai Tarabukin, *Ot mol'berta k mashine* (Moscow: Rabotnik prosveshcheniia, 1923), 17–18.

3. Selim Khan-Magomedov, *INKhUK i rannii konstruktivizm* (Moscow: Architectura, 1994), 233.

4. Tarabukin, *Ot mol'berta k mashine*, 17–18.

5. [Tarabukin et al.?], "Institut khudozhestvennoi kul'tury," 85–88.

6. Among the most important sources on the productivist shift are: Christina Lodder, *Russian Constructivism*, (New Haven, Conn.: Yale University Press, 1983), 73–108; and two books devoted entirely to the subject: Anatolii Mazaev, *Kontseptsiia "proizvodstvennogo iskusstva" 20-kh godov* (Moscow: Nauka, 1975); and Elena Sidorina, *Skvoz' ves' dvadtsatyi vek: Khudozhestvenno-proektnye kontseptsii russkogo avangarda* (Moscow: Russkii mir, 1994). See also Christina Kiaer's important recent work: Christina Kiaer, "Boris Arvatov's Socialist Objects," *October*, no. 81 (Summer 1997), 105–18; idem, "Les objets quotidiens du constructivisme russe," *Cahiers du Musée national d'art moderne*, no. 64 (Summer 1998), 30–69; and idem, "The Russian Constructivist Flapper Dress," *Critical Inquiry* 28, no. 1 (Autumn 2001), 185–243.

7. See GARF f. 4655, op. 1, d. 279.

8. Osip Brik, "O perekhode INKhUKa v VSNKh," quoted in Khan-Magomedov, *INKhUK i rannii konstruktivizm*, 233.

9. These research institutes replace the small laboratories of universities and the higher technical schools where research was conducted prior to the revolution; see M. Ia. Lapirov-Skoblo, "Novye puti nauki i tekhniki SSSR," in *Nauka i tekhnika v SSSR, 1917–1927*, 2 vols. (Moscow: Rabotnik prosveshcheniia, 1927), vol. 1, 53–71, esp. 61–62.

10. Brik, "O perekhode INKhUKa v VSNKh," quoted in Khan-Magomedov, *INKhUK i rannii konstruktivizm*, 233.

11. Lodder, *Russian Constructivism*, 281 n. 85.

12. For example, in fall 1922, Tarabukin, Arvatov, and Babichev are involved in the preparation of written reports for presentation to RAKhN, in which they detail the INKhUK's origins, history, activity, and significance (GARF f. 4655, op. 1, d. 279, l. 2). As Arvatov puts it: "The immediate question now in the life of the INKhUK is this report before the Academy, since the INKhUK is [now] both formally and materially dependent upon the Academy" (GARF f. 4655, op. 1, d. 279, l. 3).

13. Tarabukin, *Ot mol'berta k mashine*, 20. See also Osip Brik, "V poriadke dnia," in *Iskusstvo v proizvodstve* (Moscow: IZO Narkompros, 1921), 7–8.

14. "Preniia po dokladu t. Stepanovoi 'O konstruktuvizme' 22 dekabria 1921 g.," 1921, typescript, 13 pp., Khan-Magomedov collection, Moscow; trans. James West as "Transcript of the Discussion of Comrade Stepanova's Paper 'On Constructivism,' December 1921," in *Art into Life: Russian Constructivism, 1914–1932* (Seattle: Henry Art Gallery, University of Washington, 1990), 74–75 (trans. slightly modified).

15. Ibid., 74–77. The Cheka (ChK) is the predecessor of the KGB.

16. Ibid., 78.

17. Ibid. (trans. slightly modified).

18. Quoted in Aleksandr Lavrent'ev, "V. F. Stepanova o rannem konstruktivizme," *Tekhnicheskaia estetika (Trudy VNIITE)*, no. 21 (1979), 116–17.

19. Boris Kushner, "Organizatory proizvodstva (Doklad, chitannyi v Institute Khudozhestvennoi Kul'tury 30 marta 1922 g.)," *Lef*, no. 3 (June–July 1923), 97–103. Shortly after the talk itself, however,

its contents are summarized (along with the discussion among audience members that followed) in N. M., "Khudozhniki i proizvodstvo," *Vestnik iskusstva*, no. 5 (May 1922), reprinted in *Sovetskoe iskusstvo za 15 let: Materialy i dokumentatsiia*, ed. Ivan Matsa (Moscow and Leningrad: Ogiz-Izogiz, 1933), 296–99.

20. Kushner, "Organizatory proizvodstva," 102. It is worth noting that prior to his work in the INKhUK, Kushner served in the Bolsheviks' early program of industrial nationalization and reconstruction as one of three members (along with the well-known technocrat and later diplomat Leonid Borisovich Krasin) of both the Electrotechnical Section of Vesenkha and the Extraordinary Commission for Managing the Unified Electrotechnical Industry. Jonathan Coopersmith suggests that the "multiple posts" held by engineer-managers is a reflection of the hodgepodge of new administrative bodies, the shortage of qualified personnel, and the "extraordinary outburst of technocratic enthusiasm" in the early period of Bolshevik government (Coopersmith, *The Electrification of Russia, 1880–1926* [Ithaca, N.Y.: Cornell University Press, 1992], 145). Indeed, Kushner seems to be an archetypal *intelligent* of the chaotic decade of wars, revolutions, and early Bolshevism—that is, a person of many and diverse hats: a poet from Minsk, a linguist, a founding member of OPOIAZ, an editor of the avant-garde weekly *Iskusstvo kommuny* (1918–19), a founder with Brik of Komfut (Communists and Futurists; Kommunisty-futuristy), and a prolific journalist.

21. Kushner, "Organizatory proizvodstva," 102. On the early development of the notion of production art by Brik, Kushner, and others in the pages of the Moscow weekly *Iskusstvo kommuny* (1919–20), see Christina Lodder, "Art of the Commune: Politics and Art in Soviet Journals, 1917–20," *Art Journal* 52 (Spring 1993), 24–33; and also Bengt Jangfeldt, *Majakovskij and Futurism, 1917–1921* (Stockholm: Almqvist and Wiskell International, 1976).

22. Kushner, "Organizatory proizvodstva," 102–03.

23. According to the summary published in *Vestnik iskusstva*, Arvatov states in the discussion following Kushner's paper that, in his opinion, the most important task of the engineer in production is not that of the "engineer-constructor" but that of the "engineer-organizer" (*inzhener-organizator*), the third category of engineers given in Kushner's taxonomy (*Sovetskoe iskusstvo*, 297). It may be Arvatov's editorial intervention, therefore, that leads to the new title given to Kushner's lecture when it is published in *Lef* as "Organizatory proizvodstva." It is worth noting, however, that Kushner is scathing about engineer-organizers (such as F. W. Taylor), claiming that theirs is a comparatively new domain, that their business is new; that they, like any pioneers and colonizers, are inclined to exaggeration and the making of foundationless claims; that they love to talk about the "scientific organization of production" but the bottom line is that no such science exists, nor is it likely to exist in the near future ("Organizatory proizvodstva," 100).

24. Karlis Johansons (Karl Ioganson), Moscow, to Johansons family, Cesis, n.d. [early 1922], autograph, 4 pp., Berkholce collection, Cesis (original emphasis).

25. On March 28, 1921, Ioganson proposed to his fellow Constructivists that the new group take the name "constructors" or "engineers" (*konstruktory*) rather than "Constructivists" (*konstruktivisty*). But Gan disagreed, arguing that *konstruktivist* implied an authoritative, legislative aspect (*zakonodatel'nyi moment*), whereas the *konstruktor* was merely an "executor" of a pregiven task (quoted in Khan-Magomedov, *INKhUK i rannii konstruktivizm*, 102). Although Gan won the argument with respect to the group's name, Ioganson's 1922 letter to his family (see n. 24) indicates that, as of early 1922, he has not conceded the point.

26. Ioganson, Moscow, to Babichev, Moscow, March 1, 1922, typescript, 1 p., Khan-Magomedov collection, Moscow.

27. Ioganson, Moscow, to Babichev, Moscow, March 25, 1922, typescript, 1 p., Khan-Magomedov collection, Moscow.

28. See Khan-Magomedov, *INKhUK i rannii konstruktivizm*, 71; also idem, "Diskussiia v INKhUKe o sootnoshenii konstruktsii i kompozitsii (ianvar'—aprel' 1921 goda)," *Tekhnicheskaia estetika (Trudy VNIITE)*, no. 20 (1979), 66–67.

29. Karl Ioganson, "Ot konstruktsii—k tekhnike i izobreteniiu," March 9, 1922, typescript, 3 pp., Khan-Magomedov collection, Moscow; trans. James West as "From Construction to Technology and Invention," in *Art into Life,* 70 (trans. modified). A note on my translation of the Russian word *tekhnika* as "technics": *Tekhnika* is richer in its range of meanings than its ostensible English cognate, "technique," for it may also, depending on the context, signify "technology" (that is, the sum total of techniques, or the science, discourse, or logos of technique). But since in Russian, as in English, there also exists another word for "technology"—*tekhnologiia*—it would be problematic to translate automatically Ioganson's *tekhnika* as "technology" in the interests of, say, semantic breadth. (There is ample evidence for the differentiation of the two Russian words in the 1920s. In his INKhUK text "Organizatory proizvodstva," discussed earlier, for example, Kushner includes both *tekhnika* and *tekhnologia*—and thereby implicitly *distinguishes* between them—among the complex of factors that the engineer-organizers of a factory's administration must confront [98].) But the most important reason for distinguishing the two senses of *tekhnika* ("technique" and "technology") is that, if I were simply to translate *tekhnika* as "technology"—as English translators have tended to do—the explicit distinction that Ioganson purposefully draws, as we shall see, *between* his two terms *tekhnika* and *izobreteniie* (invention) would no longer make any sense, because our English word "technology" subsumes *both* technique *and* invention. As a compromise solution to this problem of translation, I have rendered Ioganson's *technika* more or less consistently throughout this chapter as "technics." In its primary sense, "technics" is a somewhat old-fashioned word for "technique" or "techniques." It is also true that it has a secondary meaning as "technology." But insofar as it is a word rather rarely encountered now in nonspecialized English usage, "technics" defamiliarizes for the reader its own primary meaning of "technique" or "techniques." By translating Ioganson's *tekhnika* as "technics," I hope to avoid either a narrow confinement or an overly broad expansion of the Russian word's semantic content.

30. By placing quotation marks around the word "fokus," Ioganson underscores and plays upon the Russian word's two sets of possible meanings—"trickery," "deceit," or "deception" (more colloquially, "whim" or "caprice") and, in scientific and figurative usage only, "focus." Trickery, that is to say, is the very focus or preoccupation of art itself.

31. See [Gan et al.], "Programma rabochei gruppy konstruktivistov INKhUKa," in Khan-Magomedov, *INKhUK i rannii konstruktivizm,* 95–96; trans. James West as "Program of the Constructivist Working Group of INKhUK," in *Art into Life,* 67.

32. It is on the grounds of technical fetishism that Arvatov, for example, attacks El Lissitzky and Ilya Ehrenburg's new Berlin journal *Veshch' Objet Gegenstand:* "For *Veshch',*" Arvatov argues, "technology is not the means but the end" (Arvatov, [review of] "*Veshch'.* Berlin, nos. 1, 2, 3, 56 str., 1922 g.," *Pechat' i revoliutsiia,* no. 7 [1922], 342).

33. Rodchenko [and Ioganson?], "Programma Proizvodstvennogo otdela Gruppy konstruktivistov INKhUKa," n.d. [ca. 1921], published in Rodchenko, *Opyty dlia budushchego,* ed. O. V. Mel'nikov and V. I. Shchennikov (Moscow: Grant", 1996), 130; see also editorial note, 260 n. 4.

34. Ioganson's references to Leonardo appear in sketchbooks dating to his student years at the Riga City School of Art (1910–14), which are now preserved in the Cesis History and Art Museum (Cesu Vestures un mākslas muzejs; inv. no. CM53863, l. 31ob., and inv. no. CM53).

35. "Pust' mlechnyi put' raskoletsia na mlechnyi put' izobretatelei i mlechnyi put' priobretatelei"; see Velimir Khlebnikov et al., *Truba marsian* (Moscow: Liren', 1916), quoted in Sidorina, *Skvoz' ves' dvadtsatyi vek,* 23, see also 18. Trans. Anna Lawton and Herbert Eagle as "Trumpet of the Martians," in *Russian Futurism through Its Manifestoes, 1912–1928,* ed. Anna Lawton (Ithaca, N.Y.: Cornell University Press, 1988), 104 (trans. slightly modified). The former futurist writer and poet Sergei Tret'iakov also cites Khlebnikov's maxim "izobretateli otdeliaiutsia ot priobretatelei" in his article "Otkuda i kuda?" *Lef,* no. 1 (March 1923), 195; trans. Lawton and Eagle as "From Where to Where?" in *Russian Futurism through Its Manifestoes,* 207.

36. El Lissitzky, "New Russian Art: A Lecture" (1922), trans. in Sophie Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts* (New York: Thames and Hudson, 1980), 336.

37. The debate over the *spetsy* has a broader frame: Of all the pre-revolutionary elites, the intelligentsia alone survives the revolution; in fact, the party vanguard is dominated by *intelligenty* (while the rank-and-file membership, at least initially, is mainly working-class in composition). This discrepancy leads to a factional struggle over the intelligentsia's role and predominance in the building of the so-called worker's state, and it is during the course of this struggle that non-Communist members of the intelligentsia are renamed "bourgeois specialists."

38. Sheila Fitzpatrick, "The Bolsheviks' Dilemma: The Class Issue in Party Politics and Culture," in her *The Cultural Front: Power and Culture in Revolutionary Russia* (Ithaca, N.Y.: Cornell University Press, 1992), 16–36.

39. Max Born, quoted in Gerald Holton, *Thematic Origins of Scientific Thought: Kepler to Einstein*, rev. ed. (Cambridge, Mass.: Harvard University Press, 1988), 7.

40. Tarabukin, *Ot mol'berta k mashine*, 13.

41. See Viktor Shklovsky, "Iskusstvo kak priem" (1917), trans. Lee T. Lemon and Marion J. Reis as "Art as Technique," in *Russian Formalist Criticism: Four Essays* (Lincoln: University of Nebraska Press, 1965), 12–13.

42. I am grateful to Elliot Sivowitch of the Division of Electricity and Modern Physics at the National Museum of American History in Washington, D.C., for having identified the precise type of electrical circuit to which Ioganson's drawing refers.

43. For contemporary Russian examples, see Imant Georgievich Freiman's 1916 course in radiotechnology published in 1924 as *Kurs radiotekhniki* (Leningrad: Gosudarstvennoe izdatel'stvo, 1924).

44. Soviet and western historians jockey one another for priority in the invention of radiotelegraphy, each advancing their own lists of inventors—inter alia, Heinrich Hertz, Oliver Lodge, Guglielmo Marconi, James Maxwell, and Aleksandr Popov.

45. My discussion of wireless or radiotelegraphy is drawn from Hugh G. J. Aitken, *The Continuous Wave: Technology and American Radio, 1900–1932* (Princeton, N.J.: Princeton University Press, 1985), passim; and idem, *Syntony and Spark: The Origins of the Radio* (Princeton, N.J.: Princeton University Press, 1985), passim.

46. Aitken, *Continuous Wave*, 4–5; see also Stanley Leinwoll, *From Spark to Satellite: A History of Radio Communications*, ed. Fred Shunaman (New York: Scribner, 1979), 29.

47. "Kogda izobreli radio, to ne znali tochno, kak budut primeniat'"; Rodchenko and Ioganson (at a meeting of the Working Group of Constructivists, May 11, 1921), transcribed in Khan-Magomedov, *INKhUK i rannii konstruktivizm*, 110.

48. See Aitken, *Continuous Wave*, passim; and also Susan Douglas, *Inventing American Broadcasting, 1899–1922* (Baltimore, Md.: Johns Hopkins University Press, 1987), xv.

49. See V. I. Lenin to M. A. Bonch-Bruerich, February 5, 1920, in *Polnoe sobranie sochinenii*, 5th ed. (Moscow: Izdatel'stvo politicheskoi literatury, 1965), vol. 51, 130.

50. Velimir Khlebnikov, "Radio budushchego," *Krasnaia nov'*, no. 8 (August 1927), 185–88; republished (with additions from the original 1921 manuscript) in *Sobranie proizvedenii Velemira Khlebnikova*, 5 vols., ed. Iu. Tynianov and N. Stepanov (Leningrad: Izdatel'stvo pisatelei, 1928–33), vol. 4, 290–95; trans. Paul Schmidt as "The Radio of the Future," in *Collected Works of Velimir Khlebnikov*, 2 vols., ed. Charlotte Douglas (Cambridge, Mass.: Harvard University Press, 1987), vol. 1, 392–96. For a discussion of Khlebnikov's visionary account, see Maria Gough, "Switched On: Notes on Radio, Automata, and the Bright Red Star," in *Building the Collective: Soviet Graphic Design 1917–1937; Selections from the Merrill C. Berman Collection*, ed. Leah Dickerman (New York: Princeton Architectural Press, 1996), 39–55. On ROSTA, see Leah Dickerman, "Building the Collective," in ibid., 19–22.

51. *Erste Russische Kunstausstellung, Berlin 1922: Galerie Van Diemen* (Berlin: Internationale Arbeiterhilfe, [1922]), nos. 551–54.

CHAPTER 4: THE DEATH OF THE OBJECT

An earlier version of this chapter appeared as "Tarabukin, Spengler, and the Art of Production" in *October,* no. 93 (Summer 2000).

1. See *Knizhnaia letopis',* no. 13 (July 1923), 28.

2. RGALI f. 941, op. 10, d. 608, ll. 5, 50b. As a theoretically inclined art historian, Tarabukin's earliest efforts range from the elaboration of a formal method for the study of European and modern Russian painting (*Opyt teorii zhivopisi* [Moscow: Vserossiiskii proletkul't, 1923], written in 1916 but published only in June 1923), to a 1916 book manuscript devoted to the icon (*Smysl ikony,* ed. A. G. Dunaev [Moscow: Izdatel'stvo pravoslavnogo bratstva sviatitelia filareta moskovskogo, 1999]). Such range is not unusual. As Andrei Kovalev observes, young historians involved in the reevaluation of old Russian art—the critic Nikolai Punin, who proselytizes on behalf of Vladimir Tatlin, is another case in point—are among the avant-garde's staunchest defenders (see Andrei Kovalev, "Samosoznanie kritiki: iz istorii sovetskogo iskusstvoznaniia 1920-kh godov," *Sovetskoe iskusstvoznanie* 26 [1990], 358). For a comprehensive bibliography of Tarabukin's more than one hundred articles, four books, and numerous unpublished manuscripts, see *Bibliograficheskii ukazatel' trudov N. M. Tarabukina, arkhivnykh materialov i literatury o N. M. Tarabukine,* ed. Aleksei Dunaev (Moscow: Gosudarstvennyi institut teatral'nogo iskusstva imeni A. B. Lunacharskogo, 1990).

Born in 1889 in the province of Kazan', east of Moscow, Tarabukin first studies philosophy and art history in the Faculty of History and Philology at Moscow University (Moskovskii universitet). After entering Demidov Law School (Demidovskii iuridicheskii litsei) in Iaroslavl' in 1912, he continues to pursue his interest in the history of art, making a trip abroad in 1913–14 for the purpose of visiting museums and architectural monuments, and drafting the aforementioned monographic studies. In 1916, after graduating in law—a profession he will never practice—Tarabukin moves to Petrograd, where he becomes acquainted with Punin. It is most likely through Punin, who is closely associated with the circle of artists and critics gathered around Tatlin, that Tarabukin is introduced to contemporary art. In the aftermath of the October Revolution, Tarabukin moves to Moscow and begins publishing art criticism in newspapers and periodicals, as well as teaching and lecturing in various cultural institutions, such as the newly formed collection of contemporary Russian art, the Museum of Painterly Culture (Muzei zhivopisnoi kul'tury; MZhK). (Biographical information is drawn from: conversations with Tarabukin's closest surviving relatives, Marina Dunaeva and Aleksei Dunaev, Moscow, October 29 and December 6, 1992; *Smysl ikony,* 213–14; and RGALI f. 664, op. 1, d. 11, l. 222.)

3. *Der Untergang des Abendlandes,* vol. II (Munich: C. H. Beck, 1922), trans. Charles Atkinson as *The Decline of the West,* vol. II (New York: Alfred A. Knopf, 1980 [1928]), 495 n. 3. (Hereafter cited in the text and notes as *DW,* II, followed by page number.)

4. *Der Untergang des Abendlandes: Umrisse einer Morphologie der Welt-Geschichte* (Vienna: Wilhelm Braumüller, 1918), trans. Charles Atkinson as *The Decline of the West,* vol. I (New York: Alfred A. Knopf, 1986 [1926]). (Hereafter cited in the text and notes as *DW,* I, followed by page number.)

5. Oswald Spengler to August Albers, June 25, 1919, in *Letters of Oswald Spengler, 1913–1936,* trans. and ed. Arthur Helps (New York: Alfred A. Knopf, 1966), 81.

6. *Zhizn' iskusstva,* no. 14 (April 4, 1922), quoted in Katerina Clark, *Petersburg, Crucible of Cultural Revolution* (Cambridge, Mass.: Harvard University Press, 1995), 45.

7. Ilya Ehrenburg, *Truce: 1921–1933* (London: MacGibbon and Kee, 1963), 14.

8. Abram Deborin, "Gibel' Evropy ili torzhestvo imperializma?" *Pod znamenem marksizma,* nos. 1–2 (January–February 1922), 8.

9. A plethora of Russian translations of excerpts from *The Decline* and various other essays by its author appear in periodicals or as inexpensive, widely distributed "brochures" in 1922. Two unabridged translations of the entire first volume are published in 1923. While the second volume is never translated into Russian in its entirety, its last two chapters—with which, as we shall see, Tarabukin is most especially concerned—are published as a separate title, *Den'gi i mashina,* trans. German Genkel' (Pet-

rograd: Mysl', 1922). A further important source for Tarabukin is Spengler's essay "Pessimismus?," *Preussische Jahrbücher* (April 1921), which appears in three different Russian translations, all in 1922.

10. See Jane Burbank, *Intelligentsia and Revolution: Russian Views of Bolshevism, 1917–1922* (New York: Oxford University Press, 1986).

11. See V. I. Lenin, *Collected Works,* 4th ed., 45 vols. (London: Lawrence and Wishart; Moscow: Progress, 1970), vol. 33, 349–50, vol. 45, 500–501.

12. Tarabukin, "Vzgliady Shpenglera na iskusstvo budushchego" (June 8, 1923), GARF f. 4655, op. 1, d. 279, ll. 33–330b.

13. One of the rare references to Spengler in the productivist literature occurs in Boris Arvatov's *Iskusstvo i klassy* (Moscow and Petrograd: Gosudarstvennoe izdatel'stvo, 1923), in which the author agrees with the German writer apropos the "Alexandrianism" of the present, but ultimately dismisses his theory of decline (73). See also Andrei Kovalev, "Ot istorii iskusstva k sovremennosti: Sovetskoe iskusstvoznanie i kritika 1920-x godov v sisteme khudozhestvennogo soznaniia" (Ph. D. diss., Moscow State University, 1990), chapter 3.

14. See Tarabukin, *Ot mol'berta k mashine* (Moscow: Rabotnik prosveshcheniia, 1923), 5–17. (Hereafter cited in the text and notes as *OM,* followed by page number.) Tarabukin's debt to Spengler is noted in Yve-Alain Bois, "Painting: The Task of Mourning," in *Endgame: Reference and Simulation in Recent Painting and Sculpture* (Boston: Institute of Contemporary Art, 1986), 49 n. 23; *Le constructivisme russe,* 2 vols., ed. Gérard Conio (Lausanne: L'Age d'Homme, 1987), vol. 1, 168, 446, 449, 451 n. 3; and Andrei Kovalev, "Ot istorii iskusstva k sovremennosti," chapter 3.

15. Although Tarabukin does refer in passing to the "social basis of the crisis of art" (*OM,* 15–16), this explanation is rather supplementary to the main thrust of his account of the death of painting, as Arvatov points out in his review of the book (*Lef,* no. 4 [August–December 1924], 210).

16. On Rodchenko's monochromes, see Bois, "Painting," 38–41 and passim; Benjamin H. D. Buchloh, "The Primary Colors for the Second Time: A Paradigm Repetition of the Neo-Avant-Garde," *October,* no. 37 (1986), 41–52; Thierry de Duve, "The Monochrome and the Blank Canvas," in *Reconstructing Modernism,* ed. Serge Guilbaut (Cambridge, Mass.: MIT Press, 1986), 257; *Le constructivisme russe,* vol. 1, 445–52; and Hal Foster, "What's Neo about the Neo-Avant-Garde?" *October,* no. 70 (1994), 18–19.

17. *5 × 5 = 25: Vystavka zhivopisi* (Moscow, 1921), unpaginated.

18. El Lissitzky and Ilya Ehrenburg, "Blokada Rossii zakonchaetsia," *Veshch' Objet Gegenstand,* nos. 1–2 (March–April 1922), 2.

19. El Lissitzky, "Prouny: V preodolenii iskusstva," trans. John Bowlt as "*Prouns:* Towards the Defeat of Art," in *El Lissitzky* (Cologne: Galerie Gmurzynska, 1976), 60–72. According to a report on the INKhUK's activities published in 1923, Lissitzky gives this lecture at the INKhUK on September 23, 1921 ([Nikolai Tarabukin et al.?], "Institut khudozhestvennoi kul'tury," *Russkoe iskusstvo,* nos. 2–3 [1923], 88). On the erroneous dating of the lecture to 1924, see Peter Nisbet, *El Lissitzky, 1890–1941* (Cambridge, Mass.: Harvard University Art Museums, 1987), 54 n. 3. On the other versions of the lecture, see ibid., 53–54, 59–61, 153 n. 42.

20. Lissitzky, "*Prouns:* Towards the Defeat of Art," 60. Nisbet first located the passage from *Der Untergang* that Lissitzky cites here; see his *El Lissitzky,* 49 n. 56.

21. See Nisbet, *El Lissitzky,* 49 n. 56, and idem, "El Lissitzky in the Proun Years: A Study of His Work and Thought, 1919–1927" (Ph.D. diss., Yale University, 1995), 154–57; and Yve-Alain Bois, "De $-\infty$ à 0 à $+\infty$: L'axonométrie, ou le paradigme mathématique de Lissitzky," in *El Lissitzky, 1890–1941: Architecte, peintre, photographe, typographe* (Eindhoven: Stedelijk Van Abbemuseum, 1991), 27–37.

22. Lissitzky, "*Prouns:* Towards the Defeat of Art," 67.

23. Trans. in Peter Nisbet, *El Lissitzky,* p. 77, pl. 14 (emphasis added).

24. Lissitzky, "*Prouns:* Towards the Defeat of Art," 63, 65, 66.

25. Lissitzky and Ehrenburg, "Blokada Rossii zakonchaetsia," 2.

26. See also [Tarabukin et al.?], "Institut khudozhestvennoi kul'tury," 86, 87.

27. German Genkel', "Predislovie," in Spengler, *Pessimizm?*, trans. German Genkel' (Petrograd: Academia, 1922), 4.

28. Evg. B., "Osval'd Shpengler i *Krushenie zapadnoi kul'tury*," in *Parfenon*, no. 1 (1922), 28.

29. A Petrograd poetry anthology, for example, translates a substantial excerpt from the introduction to the first volume; see Oskar [*sic*] Shpengler, "Filosofiia budushchego (glava iz knigi *Krushenie zapadnoi kul'tury*)," in *Severnoe utro*, no. 1 (Petrograd, 1922), 75–108. See also editor's note, ibid., 75 n. 1. For a list of various Russian translations and brochures, see Kovalev, "Ot istorii iskusstva," chapter 3, 4 n. 4.

30. Osval'd Shpengler, *Zakat Evropy*, trans. N. F. Garelin (Moscow and Petrograd: I. D. Frenkel', 1923); and idem, *Zakat Evropy*, trans. A. A. Frankovskii (Petrograd: Akademiia, 1923).

31. Scholars have analyzed the Slavophile position as an affirmative response to European romanticism, with its validation of local, regional, and national traditions, in opposition to the universalist claims of Enlightenment thought, and hence that its platform comprises, paradoxically, a more or less western-inspired anti-westernism. In any case, having come through the strict demarcation of Soviet Russia from western Europe during the Cold War, it is perhaps difficult for western audiences to grasp the *extremity* of the Slavophile argument for Russia's separateness at a time when the Petrine policy of Europeanism is still dominant.

32. According to Spengler, every culture has a "soul," the identity of which is expressed in outward form by the culture's *Urphänomen*, a concept he borrows from Goethe. The *Urphänomen* is "operative through the form-sense of every man, every community, age and epoch and dictates the style of every life-expression. It is inherent in the form of the state, [its] religious myths and cults, ethical ideals, forms of painting and music and poetry, fundamental notions of each science." "The prime-symbol of the Classical soul," for example, "is the material and individual body," while "that of the Western [is] pure infinite space" (*DW*, I, 174–75).

33. Spengler develops these arguments concerning Russian culture in the second volume (*DW*, II, 192–96, 295 n. 1, 495 n.), defining Tolstoy as "the great spokesman of Petrinism even when he is denying it." "From Tolstoy, the true successor of Peter . . . proceeds Bolshevism, which is not the contrary, but the final issue of Petrinism" (*DW*, II, 194–95). The second volume of *The Decline* is not published until April 1922—that is, after the Russian controversy has reached its peak—but Spengler presents an even more polemical version of the assertion that Bolshevism is the descendant of Petrinism in his essay *Preussentum und Sozialismus* (Munich: Beck 1920), which is widely read and discussed among the contributors to the Russian debate. (Spengler's exoticization of the Russian soul as the Faustian "other" is an example of the same Eurocentrism that he sets out to critique.)

34. *Osval'd Shpengler i Zakat Evropy* (Moscow: Bereg, 1922). (According to an annotation at the end of the book's preface, the manuscript is completed in December 1921.)

35. Evg. B., "Osval'd Shpengler i *Krushenie zapadnoi kul'tury*," 28–29.

36. "Predislovie," in *Osval'd Shpengler i Zakat Evropy*, 3. Nikolai Berdiaev refers to his own accounts of the crisis of European culture: *Smysl tvorchestva* (written before the war); "Konets Evropy" (written during the war); "Konets renassansa" (1923) and *Smysl istorii* (1920); see Berdiaev, "Predsmertnye mysli Fausta," in *Osval'd Shpengler i Zakat Evropy*, 56.

37. Berdiaev, "Predsmertnye mysli Fausta," 72; see also Burbank, *Intelligentsia and Revolution*, 206.

38. Besides Berdiaev, Kovalev also cites Konstantin Miklashevskii, Evgenii Poletaev, Nikolai Punin, Nikolai Radlov, Robert Vipper, and others (see Kovalev, "Ot istorii iskusstva," chapter 3). Although Punin is best known as the great champion of the avant-garde, he is also a Slavophile; see, for example, his "Tatlin (against Cubism)" (1921), in *Tatlin*, ed. Larissa Zhadova (New York: Rizzoli, 1988), 347–48, 389–92.

39. Fedor Stepun, "Osval'd Shpengler i Zakat Evropy," in *Osval'd Shpengler i Zakat Evropy*, 13.

40. Ibid., 5.

41. Evg. B., "Osval'd Shpengler i *Krushenie zapadnoi kul'tury*," 31.

42. Leont'ev embraces the same cyclical model in his *Vostok, Rossiia i Slavianstvo* of 1885–86, arguing

that Europe entered its decline in the eighteenth century, which means that the Petrine reforms imported western European culture into Russia at precisely the moment when western European culture was coming to its end. Berdiaev revamps Leont'ev's argument after the revolution, arguing that Russia missed the Renaissance, absorbing only the products of its decay: "We experience futurism, which is hostile to the Renaissance, without having experienced the creation of the Renaissance; we experience socialism and anarchism, hostile to the Renaissance, without having experienced the free flowering of the national state; we experience philosophical and theosophical movements hostile to the Renaissance, without having experienced the Renaissance rapture in epistemology." See Berdiaev, "Konets renassansa (K sovremennomu krizisu kul'tury)," published in the Berlin journal *Sofiia* (1923), 45–46, but written before Berdiaev is forced into exile in September 1922; quoted in Burbank, *Intelligentsia and Revolution,* 205–06.

43. Danilevskii makes this argument in *Rossiia i Evropa* (1869), which is cited most often as the antecedent to *Der Untergang.* Danilevskii argues that Russia should not be considered part of Europe at all as its national (as opposed to "borrowed") culture is utterly distinct. Since Russia is, geographically speaking, part of the Eurasian continent, he proposes that "Europe" be understood exclusively as a cultural and not geographic designation. Although this might sound like the opposite of Spengler's view that "the word 'Europe' ought to be struck out of history" (*DW,* I, 16 n. 1), their arguments amount to the same thing: that Russia has no genuine relationship to western culture.

44. In 1993, seventy years after the unabridged translations of 1923, three different Russian houses republished the first volume of *Zakat Evropy,* with new introductions and annotations. *Zakat Evropy* is "no dead classic," as Pavel Gurevich puts it in his review essay, "Filosof ili prorok?" *Segodnia* (Moscow), November 9, 1993, 9.

45. Abram Deborin, "Gibel' Evropy," *Pod znamenem marksizma,* nos. 1–2 (January–February 1922), 8.

46. The final pages of *Preussentum und Sozialismus* contain Spengler's most caustic rejection of Marxist and Bolshevik versions of socialism.

47. V. Vaganian, "Nashi rossiiskie spengleristy," *Pod znamenem marksizma,* nos. 1–2 (January–February 1922), 28.

48. Karl Grasis, "Vekhisty o Shpenglere," *Krasnaia nov',* no. 2(6) (March–April 1922), 196–211; see also V. Bazarov, "O. Shpengler i ego kritiki," ibid., 211–31; and Sergei Bobrov, "Kontuzhennyi razum," ibid., 231–41. Berdiaev and Semen Frank were contributors to a famous collection of essays, *Vekhi,* published in Moscow in 1909, that criticized the ideological tenets of the radical intelligentsia. In the 1910s and early 1920s, contributors to the volume and their followers come to be known as the *vekhovtsy,* and their anthology is branded by Lenin as "an encyclopedia of liberal reneging."

49. G. Piatakov, "Filosofiia sovremennogo imperializma," *Krasnaia nov',* no. 3(7) (May–June 1922), 182–97.

50. V. I. Lenin, "On the Tenth Anniversary of *Pravda,*" *Pravda,* May 5, 1922, trans. in Lenin, *Collected Works,* vol. 33, 349–50.

51. Lenin to N. P. Gorbunov, March 5, 1922, trans. in Lenin, *Collected Works,* vol. 45, 500–501; see also Vadim Borisov's prefatory remarks to Fedor Stepun's "Mysli o Rossii," *Novyi Mir,* no. 6 (June 1991), 203.

52. Tarabukin, "Vzgliady Shpenglera," l. 33.

53. Viktor Nikitich Lazarev, *Osval'd Shpengler i ego vzgliady na iskusstvo* (Moscow: Izdanie A. G. Mironova, 1922).

54. Ibid., 149, 150, 151–52.

55. Trans. I. Rumer as "Pessimizm li?," *Kul'tura i zhizn',* no. 4 (1922); trans. P. Popov as *Pessimizm li eto?* (Moscow, 1922); and trans. German Genkel' as *Pessimizm?* (Petrograd: Academia, 1922). (References throughout this chapter are to the Academia edition.)

56. Tarabukin, "Vzgliady Shpenglera," l. 33; see also *OM,* 27 n.1.

57. *Pessimizm?,* 25, 26–27, 27 n. (Hereafter cited in the text as *P,* followed by page number.) See also *DW,* I, 41.

58. Spengler, *Filosofiia budushchego* (Ivanovo-Voznesensk, 1922). (Hereafter cited in the text as *FB,* followed by page number.)

59. Stepun describes the culture / civilization opposition as "the main axis" of Spenglerian thought ("Osval'd Shpengler i Zakat Evropy," 12); see also Berdiaev, "Predsmertnye mysli Fausta," 65ff; and Kovalev, "Ot istorii iskusstva," chapter 3.

60. Jeffrey Herf, *Reactionary Modernism: Technology, Culture and Politics in Weimar and the Third Reich* (Cambridge: Cambridge University Press, 1984), 49–50 and passim.

61. Spengler, *Den'gi i mashina,* trans. German Genkel' (Petrograd: Mysl', 1922). (Hereafter cited in the text and notes as *DiM,* followed by page number; references to the corresponding pages in *DW,* II, will also be given.)

62. Herf discusses the way in which this opposition underpins Spengler's anti-Semitism; see *Reactionary Modernism,* 59–61.

63. Genkel' translates *ungreifbar* as *neuiazvim*—that is, "unassailable" or "invulnerable" (literally, "untouchable") (*DiM,* 72).

64. Boris Kushner, "Proizvodstvo kul'tury," March 16, 1922, manuscript, private archive, Moscow; quoted in trans. in Christina Lodder, *Russian Constructivism* (New Haven, Conn.: Yale University Press, 1983), 101.

65. The word Tarabukin uses for "backward" is *kustarnoe.* Derived from *kustar'* (a handicraftsman working alone or in an *artel'*), the adjective *kustarnoe* is one of the words commonly used in the 1920s to refer to inefficient production methods. Its primary meaning is "handcrafted," but its secondary set of pejorative meanings become increasingly dominant: to be *kustarnoe* is to be "primitive," "backward," "homemade," "amateurish," "inefficient."

66. The semantic value of the word *ustanovka* increases rapidly in the 1920s, transcending the overtly technical sense in which Tarabukin here deploys it to signify also, within psychological and ideological discourses, "orientation" or "positioning." A prime example of the latter sense of *ustanovka* is its usage within Aleksei Gastev's Central Institute of Labor (Tsentral'nyi institut truda; TsIT) in Moscow (see my "Switched On: Notes on Radio, Automata, and the Bright Red Star," in *Building the Collective: Soviet Graphic Design 1917–1937; Selections from the Merrill C. Berman Collection,* ed. Leah Dickerman [New York: Princeton Architectural Press, 1996], 47–50).

67. In a footnote, Tarabukin credits Kushner with the introduction of the concept of the "installation," along with two other related expressions, the "decorporealization" *(razveshchestvleniia)* and "deobjectification" *(obespredmechivaniia)* of contemporary culture (*OM,* 30 n. 1).

68. See Jonathan Coopersmith, *The Electrification of Russia, 1880–1926* (Ithaca, N.Y.: Cornell University Press, 1992), 143.

69. See Boris Kushner, "Organizatory proizvodstva (Doklad, chitannyi v Institute Khudozhestvennoi Kul'tury 30 marta 1922 g.)," *Lef,* no. 3 (June–July 1923), 97–103; and also Elena Sidorina, *Skvoz' ves' dvadtsatyi vek: Khudozhestvenno-proektnye kontseptsii russkogo avangarda* (Moscow: Russkii mir, 1994), 357–58 n. 117.

70. Boris Kushner, "Outline for a Course for the Basic Division" (n.d.), RGALI f. 681, op. 2, ed. khr. 165, ll. 3–5. My thanks to Leah Dickerman for her transcription of this document.

71. Viktor Shklovsky, "Iskusstvo kak priem" (1917), trans. as "Art as Technique," in *Russian Formalist Criticism: Four Essays,* ed. Lee T. Lemon and Marion J. Reis (Lincoln, Neb.: University of Nebraska Press, 1965), 12 (trans. modified).

CHAPTER 5: RED TECHNICS

1. Osip Brik, "Ot kartiny k sittsu," *Lef,* no. 2(6) (1924), 31, 34; trans. John Bowlt as "From Pictures to Textile Prints," in *Russian Art of the Avant-Garde: Theory and Criticism,* ed. John Bowlt, rev. and enl. ed. (New York: Thames and Hudson, 1988), 248–49 (trans. slightly modified).

2. Christina Lodder, *Russian Constructivism* (New Haven, Conn.: Yale University Press, 1983), 145.

3. Selim Khan-Magomedov, "Konstruktsiia, izobretenie i konstruktivizm: k probleme formirovaniia kontseptsii khudzhestvennogo konstruirovaniia," *Tekhnicheskaia estetika (Trudy VNIITE),* no. 23 (1980), 56.

4. The archival sources are: (1) records of Prokatchik's Russian Communist Party cell preserved at the former Moscow Party Archive (TsGAOD g. Moskvy f. 201 [Iacheika RKP(b) zavoda "Krasnyi Prokatchik" Baumanskogo raiona g. Moskvy], 6 dd., 1923–29); (2) records of Mossredprom, the trust to which Prokatchik is responsible (TsMAM g. Moskvy f. 2805 [Upravlenie Moskovskogo Gosudarstvennogo tresta srednei i melkoi promyshlennosti "Mossredprom" Moskovskogo Soveta Narodnogo Khoziaistva], 127 dd., 1924–28); (3) records of Moskvamet, which until 1922 oversees the metalworking enterprises of Moscow *oblast',* including those in the city itself (TsGAMO f. 1038 [Upravlenie Metalloobrabatyvaiushchei promyshlenosti Moskvy i Moskovskoi gubernii pri MSNKh "Moskvamet"], 456 dd., 1918–22); (4) architectural records for the city of Moscow (Historical-Architectural Archive [Istoriko-arkhitekhturnyi arkhiv], Moscow, f. Lefortovskaia *chast'* 938 / 747, dd. 8, 9, 10); (5) INKhUK documents preserved in the files of the Russian Academy of Artistic Sciences (Rossiiskaia akademiia khudozhestvennykh nauk; RAKhN), Moscow (GARF f. 4655, dd. 279–80) and also in the collection of Selim Khan-Magomedov, Moscow; and (6) Ioganson's correspondence preserved in the collection of Erna Berkholce, Cesis. (According to an inventory of Prokatchik's factory office made in 1926 [TsMAM g. Moskvy f. 2805, op. 1, d. 61, ll. 58–62ob.], there were at one time some thirty-nine volumes of records covering all aspects of Prokatchik's management, production, business, and staff, as well as all its document files, but none of this material is to be found in the designated state archives for industry.)

5. Hubertus Gassner, "The Constructivists: Modernism on the Way to Modernization," in *The Great Utopia: The Russian and Soviet Avant-Garde, 1915–1932* (New York: Guggenheim Museum, 1992), 313 (emphasis added).

6. Nikolai Tarabukin, *Ot mol'berta k mashine* (Moscow: Rabotnik prosveshcheniia, 1923), 33.

7. "Preniia po dokladu t. Stepanovoi 'O konstruktuvizme' 22 dekabria 1921 g.," 1921, typescript, 13 pp., Khan-Magomedov collection, Moscow; trans. James West as "Transcript of the Discussion of Comrade Stepanova's Paper 'On Constructivism,' December 1921," in *Art into Life: Russian Constructivism, 1914–1932* (Seattle: Henry Art Gallery, University of Washington, 1990), 75 (emphasis added).

8. See Harry Braverman, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century* (New York: Monthly Review Press, 1974), 72–73.

9. Tarabukin, *Ot mol'berta k mashine,* 23, 37.

10. Osip Brik, "V poriadke dnia," in *Iskusstvo v proizvodstve* (Moscow: IZO Narkompros, 1921), 8.

11. Tarabukin, *Ot mol'berta k mashine,* 20.

12. Brik, "V poriadke dnia," 8.

13. Thomas Remington, *Building Socialism in Bolshevik Russia: Ideology and Industrial Organization, 1917–1921* (Pittsburgh: University of Pittsburgh Press, 1984), 146.

14. Lenin, "The Immediate Tasks of the Soviet Government," trans. in Lenin, *Collected Works,* 4th ed., 45 vols. (London: Lawrence and Wishart; Moscow: Progress, 1965), vol. 27, 257–59. By "Taylor system," Lenin refers to the "science" of labor management developed in the first years of the twentieth century by the American engineer F. W. Taylor and consolidated in his 1911 book *The Principles of Scientific Management.* Taylor based his system on individual case studies of particular industrial operations. Each study involved breaking down a given operation (e.g., the shoveling of pig-iron) into its smallest mechanical components, and then standardizing and rearranging these elements into the most efficient combination, thereby arriving at the "one best way" in which workers should perform that operation. Taylor and his followers believed that the "scientific" management of labor would both increase production and reduce costs, as well as eliminate the arbitrary excesses of earlier models of labor management.

15. The photograph "Training in hammering" (fig. 79) is reproduced from a report on the Moscow

Central Institute of Labor ('Tsentral'nyi institut truda; TsIT) published by an enthusiastic American technocratic journal, *Management Engineering*, in 1923. For Gastev, the publication of the American report serves to confirm the validity of TsIT's program and he, in turn, republishes the photograph (as it appears in the American journal) in TsIT's own journal (see *Organizatsiia truda*, nos. 6–7 [October 1924], 72).

16. On TsIT's opponents, especially the so-called Group of Communists, see Kendall Bailes, "Alexei Gastev and the Soviet Controversy over Taylorism, 1918–1924," *Soviet Studies* 29, no. 3 (July 1977), 386–91.

17. See Boris Kushner, "Organizatory proizvodstva," *I.ef*, no. 3 (1923), 100; Tarabukin, *Ot mol'berta k mashine*, 32–33; and idem, "Ratsionalizatsiia umstvennogo truda," *Vremia*, no. 8 (1924), 16–20.

18. Aleksei Babichev, "Protokol," February 1, 1924, quoted in Khan-Magomedov, "Konstruktsiia, izobretenie i konstruktivizm," 72.

19. Jurgis Skulme and Astrida Peka, in conversation with the author, January 1994, Riga.

20. Karlis Johansons (Karl Ioganson), Moscow, to Johansons family, Cesis, January 15, 1923, autograph, 4 pp., Berkholce collection, Cesis.

21. "Protokol zasedaniia Plenuma INKhUKa," December 1, 1922 (GARF f. 4655, op. 1, d. 279, l. 11). On the Berlin exhibition, see V. P. Lapshin, "Vystavka russkogo iskusstva, Berlin, 1922 god: Materialy k istorii sovetsko-germanskikh khudozhestvennykh sviazei," *Sovetskoe iskusstvoznanie*, no. 1(16) (1983), 327–62; and Steven Mansbach, "The 'First Russian Art Exhibition' or the Politics and Presentation of Propaganda," in *Künstlerischer Austausch*, ed. Thomas Gachtgens, 3 vols. (Berlin: Akademie, 1993), vol. 1, 307–20.

22. Adolf Behne, "Der Staatsanwalt schützt das Bild," *Die Weltbühne*, no. 47 (November 23, 1922), 545–48; trans. as "On the 1922 Russian Art Exhibition in Berlin," in *The Weimar Republic Sourcebook*, ed. Anton Kaes, Martin Jay, and Edward Dimendberg (Berkeley: University of California Press, 1994), 489–90.

23. "Protokol zasedaniia Plenuma INKhUKa," December 1, 1922, l. 11.

24. The original plan is for the exhibition to travel to several European cities. Although it opens in Amsterdam in a reduced version in April 1923, its Paris installation is cancelled. According to Ioganson's correspondence with his siblings, there is interest from the Russian side to send the exhibition also to Riga. In a letter of May 3, 1922, Ioganson writes: "We may be able to bring an exhibition to Riga—the same one that we are sending to Berlin. . . . We could send about twenty or thirty artists with five hundred works of the recent movements, right up to those that negate art—they call this 'constructivism'; and I am one of the fathers of it, I'm not boasting. . . . To Berlin we are sending a huge exhibition (with five [*sic*] of my works)" (Karlis Johansons [Karl Ioganson], Moscow, to Johansons family, Cesis, May 3, 1922, autograph, 4 pp., Berkholce collection, Cesis).

25. See *Erste Russische Kunstausstellung, Berlin 1922: Galerie Van Diemen* (Berlin: Internationale Arbeiterhilfe, [1922]), nos. 551–54, and no. 320 (comprising five drawings).

26. Ioganson, "Smeta na oborudovanie i soderzhanie 'Laboratorii izobretenii po stro-tekhniki Inkhuke,'" February 14, 1923, autograph, 2 pp., Khan-Magomedov collection, Moscow.

27. "Udostovorenie," n.d., typescript, 1 p., Khan-Magomedov collection, Moscow.

28. *Chert* is a comedy by the Hungarian playwright Ferenc Molnar. According to A. Gershkovich, Molnar sympathized with Soviet ideals and supported Soviet Russia in 1919 (at this time, Hungary itself was Soviet); see Ferents Mol'nar (Ferenc Molnar), *Komedii*, trans. into Russian from the Hungarian by A. Gershkovich (Moscow: Iskusstvo, 1967), 5, 10–11.

29. Liubov' Popova, "K proizvodstvennoi rabote INKhUKa. Konspekt knigi. Sbornik no. 3. Teatral'noe zrelishche," March 1923, OR GTG f. 148 (Popova), op. 1, d. 37, l. 7. The portion of this manuscript written in ink has been published (see Dmitri Sarab'ianov and Natal'ia Adaskina, *L. S. Popova, 1889–1924: Katalog: Vystavka proizvedeniii k stoletiiu so dnia rozhdeniia* [Moscow: State Tret'iakov Gallery and ARC, 1990], 184–86, 188), but Popova's pencil annotations to the list (which include the reference to Ioganson and *Chert*) were omitted.

30. Ioganson to Babichev, January 17, 1923, quoted in Khan-Magomedov, "Konstruktsiia, izobretenie i konstruktivizm," 72.

31. GARF f. 4655, op. 1, d. 279, ll. 2–39.

32. Karlis Johansons (Karl Ioganson), Moscow, to Johansons family, Cesis, June 21, 1923, autograph, 12 pp., Berkholce collection, Cesis.

33. This photographic documentation *(rulon)* of Bakunina is preserved in the archive of the Directorate of the State Inspectorate for the Preservation and Usage of Historical and Cultural Monuments, Moscow, f. 87/3. Krasnyi Prokatchik has since been demolished.

34. On Rodchenko's advertising work for Mossel'prom (the trust responsible for the state industries of tobacco and foodstuffs) and Stepanova and Popova's textile-design work at the First State Cotton-Printing Factory (Pervaia gosudarstvennaia sittsenabivnaia fabrika; formerly Tsindel'), see Christina Kiaer, "The Russian Constructivist 'Object' and the Revolutionizing of Everyday Life, 1921–1929" (Ph.D. diss., University of California at Berkeley, 1995); and idem, "The Russian Constructivist Flapper Dress," *Critical Inquiry* 28, no. 1 (Autumn 2001), 185–243.

35. The "trustification" of state-owned industry is advocated by Lenin as "the final step in capitalist organization and therefore a necessary condition of the organization of socialism" (Edward Hallett Carr, *The Bolshevik Revolution, 1917–1923,* 3 vols. [New York: Macmillan, 1952], vol. 2, 65, 176). From late 1920 on, the production amalgamations established under War Communism are reorganized and expanded through the formation of state trusts. State trustification involves the resuscitation of nationalized but defunct or otherwise inoperative factories and the consolidation of enterprises sharing similar production profiles or locales. During the early years of the NEP, trustification buffers the state's interests against market competition from the private sector. Although the policy is somewhat controversial because of its inevitable associations with monopoly capital, the Bolsheviks insist on the *socialist* character of the new trusts as essential organs of a planned, centralized economy: "The unification of industrial enterprises of a single profile is necessary in order to eliminate discordances in the operation of individual enterprises within our nationalized industry" (*Kratkaia ekonomicheskaia entsiklopediia: finansovaia, torgovaia, bankovskaia,* comp. D. A. Kaplan [Kharkov: Ukrainskii ekonomist, 1925].) See also Iu. Avdakov and V. Borodin, *USSR State Industry During the Transition Period,* trans. Jane Sayer (Moscow: Progress, 1977), 130–45.

36. See "Sostav zavoduprav leniia," n.d. [ca. fall 1923], TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 92; and Gintse's report on Prokatchik's current state, which touches also on the factory's history, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 42.

37. "Sostav Khoziaistvennogo otdela pri Upravlenii delami," September 2, 1919, TsGAMO f. 66, op. 12, d. 726, l. 1.

38. Latvian Bolsheviks apparently receive certain privileges (good positions, apartments, and so forth) in Moscow on account of their assistance to Lenin in the securing of the revolution and the defense of the Kremlin. After demobilization, many Latvians are further "rewarded" with positions in the state bureaucracies and industrial enterprises. For this, they will later pay: In February 1938, the Soviet internal security forces liquidate the Latvian intelligentsia in Moscow—writers, artists, actors, directors—many of them "Old Bolsheviks" and hence witnesses to a time when the prognoses for the socialist future were different. See Velta Knospe, "Naves plaujasvieta," *Neatkariga Cina* (Riga), February 21, 1994, 2; see also Andrejs Plakans, *The Latvians: A Short History* (Stanford: Hoover Institution Press, 1995), 121; and also Juris Dreifelds, *Latvia in Transition* (Cambridge: Cambridge University Press, 1996), 26.

39. Within the factory club of Prokatchik, for example, there exists a "Latvian division" *(Latsektsiia),* which includes four different "circles," one of which is devoted to photography (TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 103).

40. William Chase argues that the rationalization of enterprises accomplished by the NEP contributes to a rapid escalation of unemployment, and that industrial management very often prefers to fill the few jobs available by recourse to the principle of *zemliachestvo* (William Chase, *Workers, Society, and the Soviet State: Labor and Life in Moscow, 1918–1929* [Urbana, Ill.: University of Illinois Press,

1986], 56, 83, 127, 142–43). Chase uses *zemliachestvo* to refer to peasants and workers who have come to Moscow from the same rural district, but the term also extends to persons of a shared foreign nationality. Ioganson has availed himself of *zemliachestvo* at least once before in Moscow, when he formed a Commune of Latvian Artists (Latyshskaia khudozhestvennaia kommuna; LATKhUK) in 1920–21 with his compatriots Gustav Klucis, Voldemars Andersons, Kārlis Veidemanis, and Aleksandr Drevin (Latvian Museum of War, Riga, f. Voldemars Andersons, inv. no. 9115/2306 vii).

41. *Vsia Moskva* (Moscow: Gosizdat, 1925), 864. (*Vsia Moskva,* published annually from 1923 through 1930, is essentially a telephone book, but it also serves as an extremely useful guide to the city's enterprises.) According to Diane Koenker's study of labor in revolutionary Moscow, the average number of employees per factory in the city is about two hundred. Although metalworking is the second-largest industry in Moscow, accounting for some twenty-six percent of its factory workforce, metalworking enterprises located within the city's limits tend to be rather smaller than the large-scale factories one usually associates with that industry (Koenker, *Moscow Workers and the 1917 Revolution* [Princeton, N.J.: Princeton University Press, 1981], 22, 29, 37).

42. See *Vsia Moskva* (1924), [p. x]; and also *Vsia Moskva* (1925), 864.

The production process at Prokatchik is organized into four industrial shops (*tsekhy*), beginning in the foundry or smelting shop *(plavil'nyi tsekh),* where crude ores are smelted in order to extract their metal properties. The shop has four operative furnaces, one for each of its metals—lead, zinc, tin, and aluminum—the last being the largest ("Opis' oborudovaniia i inventariia plavil'nogo zavoda 'Prokatchika,'" March 15, 1926, TsMAM g. Moskvy f. 2805, op. 1, d. 61, l. 11). Once molten, the extracted metals are poured into ingots; the ingots are then resmelted and recast in molds of various sizes. (The 1926 inventory of the foundry gives a sense of the starting size and scale of Prokatchik's rolling operation: for the casting of aluminum, the standard size of molds is 23 × 39 cm; there are 133 molds with these dimensions. Overall, molds in the shop range from 8 × 31.5 cm through 50 × 55 cm. No depth measurements are given, but these would start at approximately 7 or 8 cm [ibid., l. 110b.].) The cast metal slabs are then transferred to the rolling shop *(prokatnyi tsekh)* for rolling into sheets, where there are seventeen rolling mills with rollers of various dimensions. (The majority of the rollers have dimensions of 20 × 71.5 cm [ibid., l. 12].) The compressive force exerted by repeatedly passing the metal slab to and fro between banks of rotating rollers gradually reduces the slab's cross-sectional area. Successive hot and cold rolling changes the coarse-grained, brittle, and porous structure of the metal into a wrought structure with greater ductility and a finer grain size. Slabs are rolled into sheets ranging in thickness from plate to foil. The rolling process is directly coordinated with the cutting of the prepared sheets to shape. The cutting division *(rezal'noe otdelenie)* forms a small subsection within the rolling shop. A range of mounted flywheel-driven hard-edged cutting-tools are deployed in the division (ibid., ll. 120b, 130b.]).

The bulk of rolled-metal production goes directly to client industries. Prokatchik supplies sheet metal to the engineering and construction industries and foil to the tobacco, food, and candy industries (Mossel'prom is one of Prokatchik's clients). The remaining portion of the rolling shop's production goes to the factory's capsule and finishing shop *(kapsiulno-krasil'nyi tsekh),* where it is utilized in the production of small finished articles such as kitchen utensils, cutlery, and capsules for wine and vodka and sundry vessels, by means of stamping and pressing processes. The coating, dyeing, and finishing of these metal items also takes place here. The rolling shop is the largest and most profitable area of production at Prokatchik.

43. Robert J. Anderson, "Metallurgy of Aluminum and Aluminum Alloys," in *Handbook of Non-Ferrous Metallurgy,* ed. Donald M. Liddell, 2 vols. (New York: McGraw Hill, 1926), vol. 2, 693, 734, 729.

44. László Moholy-Nagy, *Von Material zu Architektur* (Munich: Langen, 1929), 121–22, figs. 103, 104. In this original edition, the dirigible and Rodchenko's ellipse are reproduced on the recto and verso of one page. I have reproduced figure 82 from Moholy's supervised 1938 English edition of this book, where they occupy a spread; see *The New Vision: Fundamentals of Design, Painting, Sculpture*

and Architecture, trans. Daphne M. Hoffmann, rev. and enlarged ed. (New York: Norton, 1938), 110–11, figs. 108–9.

45. "Proizvodstvennaia programma metalloprokatnago zavoda byvsh. Balashikhina na 1921 god," March 28, 1921, TsGAMO f. 1038, op. 1, d. 200, l. 7. According to this document, the usual number of workers is 140, but in 1921 this number has shrunk to fifty-five.

46. "Obshchee Sovmestnoe Zasedanie rabochikh i sluzhashikh zavodov 'Krasnyi Prokatchik' i 'Metallo-Tekhnik,'" September 9, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 43.

47. If we can assume that this figure refers to the ruble currency after its stabilization in early 1924 (Chase, *Workers, Society, and the Soviet State,* 235), we can obtain some sense of its significance by comparing it with the average monthly wage at Prokatchik in February 1925, which Blitsau cites as 125 rubles (TsGAOD g. Moskvy f. 201, op. 1, d. 2, ll. 23, 230b.).

48. "Vedemost' kapital'nogo remonta i nezakonchennykh novostroek za 1923–1924 i 1924–1925 po trestu Mossredprom," February 18, 1926, TsMAM g. Moskvy f. 2805, op. 1, d. 6, l. 230b.

49. On the basis of figure 84, the internal floor space of the new rolling shop may be very approximately calculated at 9.7 × 4.4 *sazhen'* (about 20.7 × 9.4 meters). These plans indicate the provision of sanitation (bathrooms on each floor), which is a significant improvement over all unrenovated factories. A section drawing (V. I. Arkhipov, "Razrez po A-B," September 19, 1924, Historical-Architectural Archive [Istoriko-arkhitekhturnyi arkhiv], Moscow, f. Lefortovskaia *chast'* 938 / 747, d. 9, l. 12) allows a very approximate calculation of the floor-to-ceiling height as 1.75 *sazhen'* (about 3.73 meters), another improvement on pre-revolutionary factory conditions. Proper ventilation is also to be installed throughout the new buildings. Chase notes that "before the revolution . . . lighting and ventilation systems were inadequate, ceilings were low, and windows were few and poorly located. Factories were often overcrowded, and many machines were dangerously close together. Decent toilet facilities . . . were rare" (Chase, *Workers, Society, and the Soviet State,* 224–25). Blitsau's reconstruction program is presumably intended to overcome such conditions at Prokatchik.

50. "Vedemost' kapital'nogo remonta i nezakonchennykh novostroek za 1923–1924 i 1924–1925 po tresty Mossredprom," February 18, 1926, TsMAM g. Moskvy f. 2805, op. 1, d. 6, l. 42; "Kapital'nyi remont i oborudovanie za Prokatchik," n.d., TsMAM g. Moskvy f. 2805, op. 1, d. 6, ll. 610b., 62, 620b.; and "Plan kaprabot za 1925–1926," n.d., TsMAM g. Moskvy f. 2805, op. 1, d. 16, l. 16.

51. "Obshchee Sovmestnoe Zasedanie rabochikh i sluzhashikh zavodov 'Krasnyi Prokatchik' i 'Metallo-Tekhnik,'" September 9, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 43.

52. "Svedeniia o vnov' izbiraemykh chlenakh biuro iacheek RKP Baumanskogo raiona," November 5, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 90. Ioganson's monthly salary (as of August 1924) is 138 rubles and 10 kopeek, which is slightly above other salaries cited on the same list (ibid., l. 93).

53. Chase, *Workers, Society, and the Soviet State,* 221.

54. The unpublished theses are signed "IOG" in Ioganson's hand, but are written and dated "January 17, 1924" in another (unidentified) hand. At the bottom of the page appears an explanatory note in Babichev's hand: "For the paper of January 30, 1924" (GARF f. 4655, op. 1, d. 280, l. 9).

55. Finishing (or coloring) provides metals with resistance to corrosion, oxidation, thermal fluctuations, electrical transfer, and ordinary wear (see "Metal-coatings," in *The McGraw Hill Encyclopedia of Science and Technology,* 7th ed., 20 vols. [New York: McGraw Hill, 1992], vol. 11, 43–44).

56. Until 1914, protective coatings were almost universally applied by brush, although spray-gun coating had appeared in 1907 (see Trevor Williams, *A Short History of Technology, c. 1900–c. 1950* [Oxford: Clarendon Press; New York: Oxford University Press, 1982], 185). Anderson explains the dipping process for aluminum ("Metallurgy of Aluminum and Aluminum Alloys," 750).

57. In the 1926 inventory of Prokatchik's equipment, seventeen hand-operated *(ruchnoi)* and two power-driven *(privodnoi [ot motora])* metal-finishing machines are listed (TsMAM g. Moskvy f. 2805, op. 1, d. 61, ll. 14, 140b.). Since the depreciation on the latter is less, we can perhaps assume that the powered models are later acquisitions and might plausibly be associated with Ioganson's "finishing machine." The machine-construction plant across the road, Metallo-Tekhnik, which also belongs to

Mossredprom and will soon be amalgamated with Prokatchik, probably serves as Ioganson's "laboratory" for this project, since its production profile is the construction of "machines for dyeing and finishing factories" *(mashiny dlia krasil'no-appreturnykh fabrik)*, although chiefly for supply to the textile industry (Krakovshchinskii, "Doklad o proizvodstvennoi programme Tresta Mossredproma," September 17, 1925, TsMAM g. Moskvy f. 2805, op. 1, d. 14, l. 420b.).

58. Patenting procedures were suspended from 1917 through to 1924, which means that they have only just been resumed at the time of Ioganson's Prokatchik invention. A survey of the "Kartoteka avtorov (v SSSR s 1924)" at the Library of Patents and Technology (Patentno-tekhnicheskaia biblioteka) in Moscow, and of the published *Svod patentov na izobreteniia vydannykh v SSSR*, vol. 1, nos. 1–24 (Leningrad: Komitet po delam izobretenii SVNKh SSSR, 1925), which continue as *Vestnik Komiteta po delam izobretenii*, did not turn up any evidence that Ioganson patented his invention. He may have deposited an application *(zaiavka)* directly with the Committee for Inventions (Komitet po delam izobretenii), but I was not permitted access to its fonds of such *zaiavki*, which are preserved in the Department of Industrial Designs (Otdel promyshlennykh obraztsov) at NIIGPE.

59. Lev Trotsky, "Kul'tura i sotsializm," *Novyi mir*, no. 1 (January 1927), 177–80.

60. GARF f. 4655, op. 1, d. 280, ll. 1–11.

61. Blitsau, "Doklad zavodoupravleniia," June 25, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 21.

62. "Rezoliutsiia," June 25, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 22.

63. Boris Arvatov, "Iskusstvo i proizvodstvo (Protokol doklada v tsentr. klube Moskovskogo Proletkul't'a, 27 marta 1923 g.)," published in the Proletkul't journal *Gorn*, no. 8 (1923), reprinted in *Sovetskoe iskusstvo za 15 let: Materialy i dokumentatsiia*, ed. Ivan Matsa (Moscow and Leningrad: Ogiz-Izogiz, 1933), 299–301.

64. See V. S. Poznanskii, "O razvitii massovogo rabochego izobretatel'stva i ratsionalizatorstva v SSSR," *Voprosy istorii*, no. 3 (March 1960), 138–53.

65. See Mints, "Bez rabochikh (pis'mo iz Berlina)," *Izobretatel'*, no. 2 (February 1929), 41.

66. G. [*sic*], "Rabochie izobretateli," *Tekhnika i zhizn'*, no. 21 (November 1924), 1–3.

67. Tatlin's collage consists of a newspaper article, published photographs of the artist dressed in workers' clothing of his own design montaged adjacent to his design for an economical multifunction stove-heater-warmer, and other collage elements. The newspaper article, entitled "Novyi byt" was published in *Krasnaia panorama*, December 4, 1924, 17; it describes the vision of the new Soviet way of life *(novyi byt)* that Tatlin tries to foster in the Section for Material Culture (Sektsiia material'noi kul'tury) at the Petrograd State Institute of Artistic Culture (Gosudarstvennyi institut khudozhestvennoi kul'tury; GINKhUK) in 1923–24. Tatlin realizes his designs for "clothing-norms" (overcoat, jacket, smock, trousers) in collaboration with the factories of the Leningrad Clothing Manufacturers' Trust ("Report of the Section for Material Culture's Research Work for 1924," in Larissa Zhadova, *Tatlin* [New York: Rizzoli, 1988], 257). Both *Tekhnika i zhizn'* and *Krasnaia panorama* promote the notion of invention, but the difference is that the former valorizes the invention of new apparatuses for the mechanization and rationalization of production, while the latter promotes the designing of objects for use in everyday life.

68. "Nash zhurnal," *Izobretatel'*, no. 1 (January 1929), 2. The journal's inaugural editorial states as its primary objective the drawing of the broad masses to the task of Soviet technological revolution. In order to "master and surpass foreign technology," the proletariat cannot simply "rely on the assistance of a few specialists," but must acquire instead "the strength of millions." An extreme version of the notion that "every worker is an inventor" is A. M. Lezhava's article in the same issue, which explains how even a charwoman is, in fact, an inventor (5).

69. Ioganson is the son of a master builder, speaks three languages, and has spent the last decade or so in the art world, but all that this implies (that he is a bourgeois, *intelligent*, parasite, and so on) is disavowed by virtue of the fact that he is now a worker at the bench.

70. Richard Stites, *Revolutionary Dreams: Utopian Vision and Experimental Life in the Russian Revolution* (New York: Oxford University Press, 1989), 244.

71. Chase, *Workers, Society, and the Soviet State,* 267.

72. Brik, "Ot kartiny k sittsu," 34; "From Pictures to Textile Prints," 248–49.

73. David Mandel, *The Petrograd Workers and the Soviet Seizure of Power* (New York: St. Martin's Press, 1984), 383. As to whether or not Tatlin and Arvatov's laboratory is ever established, the evidence is conflicting. The published 1923 report on the activities of the INKhUK states that a production laboratory has been organized at the Novyi Lessner factory (see [Nikolai Tarabukin et al.], "Institut khudozhestvennoi kul'tury," *Russkoe iskusstvo,* nos. 2–3 [1923], 87), but according to Lodder, the attempt to establish such a laboratory is unsuccessful (*Russian Constructivism,* 145, 264).

74. Arvatov recounts the story in the discussion following Kushner's report on the role of the engineer in production, which I discuss in chapter 3 (see N. M., "Khudozhniki i proizvodstvo," *Vestnik iskusstva,* no. 5 [May 1922], reprinted in *Sovetskoe iskusstvo za 15 let,* 297).

75. "Obshchee zasedanie 'Inkhuka,'" March 22, 1923, GARF f. 4655, op. 1, d. 279, ll. 23, 23ob., 24.

76. Brik, "Ot kartiny k sittsu," 34; "From Pictures to Textile Prints," 249.

77. Paul Wood, "Art and Politics in a Workers' State," *Art History* 8, no. 1 (March 1985), 112.

78. Lodder, *Russian Constructivism,* 281 n. 85. Lodder adds that there may have been a few "informal" meetings in March.

79. "O prieme rabochikh ot stanka v partiiu," *Pravda,* February 1, 1924, quoted in Sheila Fitzpatrick, "The Bolsheviks' Dilemma: The Class Issue in Party Politics and Culture," in her *The Cultural Front: Power and Culture in Revolutionary Russia* (Ithaca, N.Y.: Cornell University Press, 1992), 34; see also Chase, *Workers, Society, and the Soviet State,* 261–63. Although the Russian Communist Party attracted great numbers of workers from the bench into its ranks in 1917, their number steadily decreased; by the time the Civil War and the Blockade were over and the government could turn its attention to the reconstruction of industry, the party had few production workers on its rolls. In 1921, less than half the party's members are workers by social origin, and less than one fifth of these are engaged in production. Added to this is the uncomfortable fact that the party leadership is top-heavy with intellectuals. Obviously, for a party that claims to be the vanguard of the proletariat, the increasing disintegration of its proletarian constituency has to be redressed—the Bolsheviks have to bridge the gulf between workers and the party and rebuild their power base in the factories.

80. Lenin believed that many factory workers were petit bourgeois, so that opening the party membership gates to any and all workers risked weakening the true proletarian character of the party as well as alienating the peasantry (Chase, *Workers, Society, and the Soviet State,* 262).

81. Ibid., 263.

82. Party cells exist in most state factories, institutions, and offices and fulfill various functions: agitprop, recruiting new members, combating non-Bolshevik influences in the workplace, and active participation—as an organ of the party—in the economic and political life of the country. By the end of 1924, in the wake of the Lenin levy, many Moscow factory cells have more than doubled their membership (Chase, *Workers, Society, and the Soviet State,* 263).

83. "Zasedanie Biuro Iacheiki RKP zavoda 'Krasnyi Prokatchik,'" November 10, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 77; and "Zasedanie Biuro Iacheika RKP zavoda 'Krasnyi Prokatchik,'" August 8, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 107.

84. "Zakrytoe Zasedanie Biuro Iacheiki RKP(b) zavoda 'Krasnyi Prokatchik' i masterskikh MOVIU," March 22, 1922, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 47.

85. "Zasedanie Biuro Iacheiki RKP(b) zavoda 'Prokatchik' i zavoda MOVIU," May 7, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 15.

86. "Obshchee Zasedanie Biuro Iacheiki RKP(b) zavodov 'Prokatchik' i MOVIU," May 28, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 10.

87. On the erection of Lenin corners, see Nina Tumarkin, *Lenin Lives! The Lenin Cult in Soviet Russia* (Cambridge, Mass.: Harvard University Press, 1983), 222–24.

88. "Zasedanie Biuro Iacheiki RKP(b) zavoda 'Prokatchik,'" August 11, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 61.

89. "Zasedanie Biuro Iacheiki RKP(b) zavodov 'Prokatchik' i MOVIU," August 25, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 62.

90. "Programma," August 31, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 97.

91. "Zasedanie Buiro Iacheiki RKP(b) zavoda 'Krasnyi Prokatchik,'" June 2, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 102.

92. Stites, *Revolutionary Dreams.*

93. The proposal to add *Krasnyi* to the factory's name is raised at a meeting of the cell's bureau on August 11, 1924. Ioganson is one of the five bureau members present, and it is he who brings the proposal to the cell's general meeting on August 20, where it is ratified. From September 3, 1924, the factory is cited in all documents as "Krasnyi Prokatchik" (TsGAOD g. Moskvy f. 201, op. 1, d. 1, ll. 61, 30, 31).

94. "Zasedanie Biuro Iacheiki RKP(b) zavoda 'Prokatchik' i masterskikh MOVIU," May 30, 1924, TsGAOD g. Moskvy f. 201, op. 1, dd. 1, l.49.

95. See Chase, *Workers, Society, and the Soviet State,* 256–92; E. H. Carr, *Socialism in One Country, 1924–1926* (New York: MacMillan, 1958), 400 n. 1; and I. P. Ostapenko, *Uchastie rabochego klassa SSSR v upravlenii proizvodstvom, 1921–1932 gg.* (Moscow: Nauka, 1964), 17–40.

96. Chase, *Workers, Society, and the Soviet State,* 258, 264–71.

97. Carr, *Bolshevik Revolution,* vol. 2, 57–65; see also Chase, *Workers, Society, and the Soviet State,* 38–39.

98. Chase, *Workers, Society, and the Soviet State,* 214–17, 257.

99. See E. B. Genkina, "Vozniknovenie proizvodstvennykh soveshchanii v gody vosstanovitel'nogo perioda (1921–1925)," *Istorii SSSR,* no. 3 (May–June 1958), 79; and also Ostapenko, *Uchastie rabochego klassa SSSR v upravlenii proizvodstvom,* 28.

100. "Zasedanie Biuro Iacheiki RKP(b) zavoda 'Prokatchik' i MOVIU," June 7, 1924, and "Zasedanie Biuro Iacheiki RKP(b) zavodov 'Prokatchik' i MOVIU," June 20, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, ll. 50, 51.

101. "Instruktsiia TsKK-RKI i VTsSPS," *Rabochaia gazeta,* August 13, 1924; see Genkina, "Vozniknovenie proizvodstvennykh soveshchanii," 82–83.

102. Chase, *Workers, Society, and the Soviet State,* 266–67, 235–36.

103. "Obshchee Zasedanie Iacheiki RKP(b) zavoda 'Krasnyi Prokatchik,'" February 4, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 21.

104. "Obshchee Zasedanie Iacheiki RKP(b) i Iacheiki RLKSM zavoda 'Krasnyi Prokatchik,'" October 8, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 37.

105. "Zasedanie Biuro Iacheiki RKP(b) zavoda 'Krasnyi Prokatchik,'" October 13, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, ll. 73, 730b.

106. See Chase, *Workers, Society, and the Soviet State,* 269.

107. Lewis Siegelbaum, "Masters of the Shop Floor: Foremen and Soviet Industrialization," in *Social Dimensions of Soviet Industrialization,* ed. Lewis Siegelbaum and William Rosenberg (Bloomington, Ind.: Indiana University Press, 1993), 166–92.

108. "Plan raboty Iacheiki RKP(b) zavoda 'Krasnyi Prokatchik,'" n.d., TsGAOD g. Moskvy f. 201, op. 1, d. 1, ll. 98–101.

109. "Zasedanie Biuro Iacheiki RKP zavoda 'Krasnyi Prokatchik,'" November 10, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 77; and "Obshchee Zasedanie Iacheiki RKP(b) zavoda 'Krasnyi Prokatchik,'" November 13, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, ll. 41, 410b.

110. Chase, *Workers, Society, and the Soviet State,* 223.

111. In this connection, it is interesting to note that in the late 1920s a party resolution on one-man management recommends that chairmen of production meetings (or commissions) be appointed, on an experimental basis, as assistants to factory directors (see Hiroaki Kuromiya, *Stalin's Industrial Revolution: Politics and Workers, 1928–1932* [Cambridge: Cambridge University Press, 1988], 124 n. 61).

112. "Zasedanie Biuro Iacheiki RKP(b) zavodov 'Krasnyi Prokatchik' i 'Metallo-Tekhnik,'" January 24, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 77.

113. "Zasedanie Biuro Iacheiki RKP(b) zavoda 'Krasnyi Prokatchik,'" February 8, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 1, l. 81.

114. "Obshchee Zasedanie Biuro Iacheiki RKP(b) zavoda 'Krasnyi Prokatchik,'" February 13, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 22.

115. Chase, *Workers, Society, and the Soviet State,* 267.

116. See Genkina, "Vozniknovenie proizvodstvennykh soveshchanii," 64; and also Kuromiya, *Stalin's Industrial Revolution,* 116.

117. Karlis Johansons (Karl Ioganson), Sochi, to the Johansons family, Cesis, September 22, 1924, autograph, 10 pp., Berkholce collection, Cesis.

118. "Zakrytoe zasedanie iacheiki RKP(b) zavoda 'Krasnyi Prokatchik,'" December 10, 1924, TsGAOD g. Moskvy f. 201, op. 1, d. 1, ll. 44, 45.

119. See TsMAM g. Moskvy, f. 2805, op. 1, d. 3, l. 40; and TsMAM g. Moskvy f. 2805, op. 1, d. 36, ll. 1–47.

120. "Sovmestnoe Zasedanie Iacheek RKP zavodov Krasnyi Prokatchik i Metallo-Tekhnik," February 18, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, ll. 23, 230b.

121. "Zasedanie Biuro Iacheiki RKP zavoda Krasnyi Prokatchik, Biuro Tsekhiacheek, fraktsii Proizvodstvennoi Komissii, i zavodoupravlenie," April 7, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, ll. 89, 890b.

122. "Obshchee Sovmestnoe Zasedanie rabochikh i sluzhashikh zavodov 'Krasnyi Prokatchik' i 'Metallo-Tekhnik,'" September 9, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 430b.

123. TsMAM g. Moskvy f. 2805, op. 1, d. 3, l. 82; and "Obshchee Zasedanie Iacheek RKP zavoda Krasnyi Prokatchik," July 1, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 36.

124. "Zasedanie Biuro Iacheiki RKP zavoda Krasnyi Prokatchik," August 20, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 118; and "Obshchee Zasedanie Iacheek RKP zavoda Krasnyi Prokatchik," June 17, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, ll. 35, 350b.

125. TsMAM g. Moskvy f. 2805, op. 1, d. 14, l. 460b.

126. Carr, *Socialism in One Country,* 400 n. 1. According to idem and R. W. Davies (*Foundations of a Planned Economy, 1926–1929* [London: MacMillan, 1969], vol. 1, 573), the *subbotnik* and the *udarnichestvo* are much more effective than the production meetings in raising productivity.

127. TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 4.

128. "Zasedanie rasshirenn[oe] Biuro Iacheiki RKP zavoda Krasnyi Prokatchik s Biuro Tsekhiacheek i frakts. zavkom," October 29, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, ll. 132, 1330b, 1340b.

129. "Zasedanie Biuro Iacheiki RKP zavoda Krasnyi Prokatchik," November 13, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l. 140.

130. "Zasedanie Biuro Iacheiki RKP zavodov Krasnyi Prokatchik i Metallo-Tekhnik," December 15, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, ll. 158, 161.

131. "[K]hotiat Shumova vytashit' v meshke za vorota"; "Rasshirenn[yi] Plenum Biuro Iacheiki RKP zavoda Krasnyi Prokatchik s Biuro Tsekhiacheek i frakts. zavkom," September 14, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, l27. This desire on the part of the rollers is reminiscent of a practice common in 1917, when intense class hostility "led workers in some plants to put unpopular foremen and capitalist managers into wheelbarrows and dump them in the river" (Sheila Fitzpatrick, *Russian Revolution,* 2nd ed. [Oxford: Oxford University Press, 1994], 54). That this should happen in a red factory in 1925 reveals the deep division that continues to exist between workers and their (now red) managers.

132. "Zasedanie Biuro Iacheiki RKP zavoda Krasnyi Prokatchik," November 13, 1925, TsGAOD g. Moskvy f. 201, op. 1, d. 2, ll. 140–42.

133. TsGAOD g. Moskvy f. 201, op. 1, d. 2, ll. 158, 164.

134. The last meeting Ioganson is documented as having attended is on March 26, 1926; "Zasedanie

Biuro Iacheiki VKP(b) zavoda Krasnyi Prokatchik," March 26, 1926, TsGAOD g. Moskvy f. 201, op. 1, d. 3, l. 87.

135. "Zasedanie Biuro Iacheiki RKP(b) zavoda Krasnyi Prokatchik," March 9, 1927, TsGAOD g. Moskvy f. 201, op. 1, d. 4, l. 34.

136. TsMAM g. Moskvy f. 2805, op. 1, d. 15, l. 91.

137. TsMAM g. Moskvy f. 2805, op. 1, d. 6, ll. 2, 20b.

138. Russian Center for the Preservation and Study of the Documents of Recent History (Rossiiskii tsentr khraneniia i izucheniia dokumentov noveishei istorii), Moscow, f. 17, op. 9, dd. 1748, 1749.

139. "Zasedanie Biuro Iacheiki RKP(b) zavoda Krasnyi Prokatchik," March 9, 1927, TsGAOD g. Moskvy f. 201, op. 1, d. 4, l. 34.

140. Chase, *Workers, Society, and the Soviet State,* 268, 270–71.

141. Genkina, "Vozniknovenie proizvodstvennykh soveshchanii," 87.

142. Carr, *Socialism in One Country,* 106.

143. Fitzpatrick, "The Bolsheviks' Dilemma," 34–35.

144. The cooperative is established in November 1925 (GARF f. 386, op. 1, d. 793, ll. 29–330b.); see also *Kooperativnye doma otdykha* (Moscow: RZhSKT-va Dom Otdykha, 1928).

145. Karlis Johansons (Karl Ioganson), Moscow, to the Johansons family, Cesis, January 2, 1929, autograph, 4 pp., Berkholce collection, Cesis.

146. Karlis Johansons (Karl Ioganson), Sochi, to the Johansons family, Cesis, September 22, 1924, autograph, 4 pp., Berkholce collection, Cesis.

147. The description of Pavlishchevo is Ioganson's (Karlis Johansons [Karl Ioganson], Kaluzhskaia *guberniia,* to the Johansons family, Cesis, July 9 1929, autograph, 4 pp., Berkholce collection, Cesis). Ioganson manages Pavlishchevo until his death from malaria on October 19, 1929 (A. H. Neiberg, Moscow, to the Johansons family, Cesis, October 20, 1929, and November 8, 1929, Berkholce collection, Cesis.) On Pavlishchevo, see *Kooperativnye doma otdykha,* 8.

148. Aleksei Gastev, "Trudovye ustanovki," *Organizatsiia truda,* no. 1 (March 1924), 24–25.

CONCLUSION

1. Boris Eikhenbaum, "Literaturnyi byt" (1929), trans. as "Literary Environment," in *Readings in Russian Poetics: Formalist and Structuralist Views,* ed. Ladislav Matejka and Krystyna Pomorska (Ann Arbor: University of Michigan Press, 1978), 56.

2. Sergei Tret'iakov, *Mesiats v derevne (iiun'-iiul' 1930 g.): Operativnye ocherki* (Moscow: Izdatel'stvo Federatsiia, 1931), 13.

3. On this reorientation, and its complexities, see the work of Benjamin H. D. Buchloh and Leah Dickerman: Buchloh, "From Faktura to Factography," *October,* no. 30 (Fall 1984), 83–118; Dickerman, "Aleksandr Rodchenko's Camera-Eye: Lef Vision and the Production of Revolutionary Consciousness" (Ph.D. diss., Columbia University, 1997); and idem, "The Propagandizing of Things," in Magdalena Dabrowski, Leah Dickerman, and Peter Galassi, *Aleksandr Rodčhenko* (New York: Museum of Modern Art, 1998), 63–99.

4. "To invent an important theme is novelistic belles-lettres," Tret'iakov asserts, "to discover an important theme is reportage," but "to contribute constructively to an important theme is operativism" (Sergei Tret'iakov, "Der Schriftsteller und das Sozialistische Dorf," *Das Neue Russland,* nos. 8–9 [March 1931], 42; quoted in trans. in Hubertus Gassner, "Heartfield's Moscow Apprenticeship, 1931–1932," in *John Heartfield* [New York: Abrams, 1992], 260).

5. See Tret'iakov, *Mesiats v derevne;* idem, *Vyzov: Kolkhoznye ocherki* (Moscow: Izdatel'stvo Federatsiia, 1930); and idem, *Feld-Herren: Der Kampf um eine Kollektiv-Wirtschaft,* trans. Rudolf Selke (Berlin: Malik, 1931). Drawing on the Malik edition in "The Author as Producer," Benjamin enumerates the

diversity of the *operativnik*'s activity on the *kolkhoz:* "calling mass meetings; collecting funds to pay for tractors; persuading independent peasants to enter the *kolkhoz;* inspecting the reading rooms; creating wall newspapers and editing the *kolkhoz* newspaper; reporting for the Moscow newspapers; [and] introducing radio and mobile movie houses" (see Walter Benjamin, "The Author as Producer" [1934], trans. Edmund Jephcott, in Benjamin, *Selected Writings,* vol. 2, trans. Rodney Livingstone et al., ed. Michael W. Jennings, Howard Eiland, and Gary Smith [Cambridge, Mass.: Belknap Press of Harvard University Press, 1999], 770).

6. Benjamin, "The Author as Producer," 777.

7. In addition to the *operativnik,* Benjamin also presents other examples of his new model: the newspaper—at least in its Soviet refunctioning—which "revises . . . the distinction between author and reader"; the work of John Heartfield, "whose technique made the book cover into a political instrument"; Hanns Eisler's "transformation . . . of [the] concert into a political meeting" through his introduction of the word; and Brecht's alteration of "the functional connection between stage and public, text and performance, director and actor" through his deployment of a montaged-derived device of interruption (ibid., 772–78).

8. See Maria Gough, "Paris, Capital of the Soviet Avant-Garde," *October,* no. 101 (Summer 2002), 53–83.

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Otdel rukopisei, Gosudarstvennaia Tret'iakovskaia galeria; OR GTG (Manuscript Division, State Tret'iakov Gallery), Moscow
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