

MILKA BLIZNAKOV

RHYTHM AS A FUNDAMENTAL CONCEPT OF ARCHITECTURE

Rhythm is a compulsion; it engenders an unconquerable urge to yield and join in; not only our feet follow the beat but the soul does, too—probably, one surmised, the soul of the gods as well! Thus, one tried to compel the gods by using rhythm and to exercise control over them.

(Friedrich Nietzsche)¹

Such is the motto with which Moisei Ginzburg chose to commence his discourse *Ritm v arkhitekture* [Rhythm in Architecture], his first theoretical work which he completed in January 1922 and published the following year. "The book is an attempt to reveal the true essence of architecture," Ginzburg writes in his preface to the first part, comparing architecture—a purely dynamic art—to music.²

Moisei Yakovlevich Ginzburg (1892-1946), son of an architect, was born in Minsk. Upon high school graduation, he departed for Paris, but soon moved to Milan, Italy in order to study architecture at the Accademia di Belle Arti. After graduation in 1914, he returned to Russia via Bulgaria at the outbreak of World War I and continued his education at the Riga Polytechnic which had been evacuated to Moscow. In this way, he supplemented his training in classical architecture with a sound knowledge of the technical disciplines. In 1917, carrying a diploma in architecture and engineering, Ginzburg departed for the Crimea where he built his first house, studied the vernacular architecture, and supervised a local or-

1. F. Nietzsche, *Die Fröhliche Wissenschaft* (Leipzig: Fritzsche, 1887). Apparently, Ginzburg made his own Russian translations from this second edition. In the English translation the last sentence is slightly different: "Thus one tried to compel the gods by using rhythm and to force their hand." (W. Kaufmann, trans., *Friedrich Nietzsche, The Gay Science* [New York: Random House, 1974], p. 139).

2. M. Ginzburg, *Ritm v arkhitekture* (Moscow: Sredi kollektsionerov, 1923), p. 7. Ginzburg was drawing upon the treatise of Karl Bücher, *Arbeit und Rhythmus* (Leipzig: Teubner, 1897), as he indicates in a footnote on page 10.

ganization for art and architectural preservation.³ Returning to Moscow in 1921, Ginzburg began teaching Renaissance architecture at the Moscow Institute of Civil Engineering (MIGI) and two years later joined the faculty of Vkhutemas [Higher State Art and Technical Studios]. Vkhutemas was a testing ground for new esthetic ideas where Alexander and Viktor Vesnin, future leaders of Constructivism, were already teaching. In fact, Ginzburg wrote his *Rhythm in Architecture* as a pedagogical tool for his course there on the theory of architectural composition.

Rhythm in Architecture is an erudite examination of rhythm in the architectural styles of the past and an attempt to develop from them a dynamic methodology for contemporary design. The book is subdivided into two main parts. The first, "Analysis of Rhythm," is a systematic discussion of the dynamic qualities of geometric forms: "Rhythm permeates the universe," begins the first section entitled "Cosmic and universal rhythm." Ginzburg adduces numerous examples to support his statement: from the movement of planetary systems to human movement, dance, and song. The next section, "Active-dynamic and Static Rhythm," contrasts time and duration in music and poetry with the spatial relationships of architectural forms, so, in discussing the visual arts and "architecture in particular, we will be dealing exclusively with passive-dynamics or static rhythm."⁴ Spatial forms, however, are the result of movement: a line is the result of a moving dot; a cylinder or a cone are the result of moving lines around one or two circles.

Ginzburg goes on to analyze the harmonious relationships between architectural forms, defining harmony as "the mathematical essence of rhythm."⁵ Then he passes to the rhythm of symmetry as the organic and "simple law of rhythm," supporting his claim with concepts from the physiology of visual perception. "Our imagination dismembers [and divides] the visual image on its basic elements, then corrects them according to our physiological constitution and reconstructs them symmetrically. . . . If we had not two, but one eye, the physiological impact of symmetry would not exist at all. That is why the rhythm of symmetry became the most important element in art and, above all, in architecture."⁶ Ginzburg goes on to explain our attitude towards the opposite "arhythmical forms" and the extensive energy needed for their compre-

3. Ginzburg published his studies and sketches in a series of articles on Tartar art in the Crimea entitled "Tatarskoe iskusstvo v Krymu" in *Sredi kollektsionerov* (Moscow), No. 11-12 (1921), No. 1 (1922), No. 3 and No. 7-8 (1922), and No. 1-2 (1924).

4. Ginzburg, *Ritm v arkhitekture*, p. 15.

5. *Ibid.*, p. 20.

6. *Ibid.*, pp. 23-24.

hension. The absence of the repetitions of symmetry and regularity, "the absence of simple and clear laws of movement . . . requires a greater effort for depicting the laws of movement and [thus result in] tension. . . . [Some] artists try to force us to use maximum perceptual energy in order to arrange the laws of rhythm in an apparently arhythmical [sequence]. . . . But in this intensive effort . . . there is more pleasure than in a clearly rhythmical perception, because the viewer participates in the process of creativity. Whatever is achieved after hard work is more precious."⁷

In Part One of *Rhythm in Architecture* Ginzburg also defines the basic architectural shapes as the tetrahedron, the prism, the pyramid, the cylinder, the cone, and the various segments of spheres. In a concise historical survey of all these shapes (from pylons, obelisks, and pyramids to cylindrical buildings with spherical roofs such as the Pantheon) he demonstrates the progression from simple to complex forms organized by repetitive rhythm and symmetry. "The more repetitive the elements in a rhythmical group, the more obvious and intelligible the saturation of rhythm."⁸ That is why "pillars and columns could be a powerful expression of rhythm [as demonstrated by] the classical order."⁹ Following the development of ancient Greek architecture, Ginzburg defines the "complex rhythm" of horizontal and vertical repetition of elements (columns, triglyphs, metopes, dentils) and clarifies the limits of repetitions beyond which "rhythmical forces play a destructive role in the integrity and unity of the architectural concept"¹⁰ (Fig. 210). Ginzburg identifies the next achievement in rhythmical complexity with the Romans' ability to combine a continuous rhythm of arches with the classical order (exemplified by the Colosseum in Rome), a development that he calls "bonding rhythm." The perfection of this "bonding rhythm" is evident in the works of the Renaissance architects Jacopo Sansovino and Andrea Palladio. Ginzburg pinpoints Palladio's Basilica in Vicenza, wherein rhythm defined by time (as in music) and rhythm defined by space (as in architecture) "could hardly be differentiated in their physiological impact; the architecture becomes musical."¹¹ Ginzburg often compares architectural complexity to musical orchestration. A fugue in music is similar to the *trave ritmico* of Donato Bramante's court for Santa Maria della Pace in Rome where the spacing of elements changes in the upper floor. The

7. *Ibid.*, p. 27.

8. *Ibid.*, p. 38.

9. *Ibid.*, p. 39.

10. *Ibid.*, p. 45.

11. *Ibid.*, p. 54.

two parallel rhythms, one twice as fast as the other, are interwoven to create "an architectural fugue."¹²

In the last section of Part One, Ginzburg attempts to transcribe the rhythmical properties of architectural compositions in a graphic system reminiscent of dance notation. He starts with the "simple rhythm" of horizontal and vertical repetitions, moving to the more "complex rhythm" of two repeating elements, which are then "complemented" by additional horizontal or vertical elements. Finally, the "bonding rhythm" of arches and the "complex rhythm" of repetition provide Ginzburg with the means to transcribe the façades of the Capella dei Pazzi and Santa Maria della Pace, indicating that the "rhythmical properties of [even] the most complex architectural monument could be transcribed in a similar manner"¹³ (Fig. 211).

Part Two of *Rhythm in Architecture*, entitled "Problems of Rhythm," is devoted to the "compositional methodology" used throughout the history of architecture. Ginzburg establishes the thesis that "architectural style is an independent world, a distinct and indestructible system of laws explaining and justifying everything [within it]. To comprehend a style means to discern these laws."¹⁴ He then comes to the first section entitled "Rhythm in Its Purest Mode": "Every architectural form is in itself the result of rhythm: the specific character of every form is determined by the quality and quantity of movement."¹⁵ Although he acknowledges that it is difficult to find examples of the purest expression of dynamism, Ginzburg illustrates his thesis with several interior courts of the Renaissance with their uninterrupted rows of pilasters, columns or arches on all sides.

In Bologna this principle of closed rings became a continuous composition. Almost the entire length and breadth of this ancient town are traversed with porticoes, moving without interruption from one building to the next, from one block to the other. . . . This purely rhythmic feeling is even more typical for Venice. . . . The composition of the Piazza San Marco with its ring of hundreds of columns . . . is hypnotizing. You can stay for hours under the arcades without assimilating any other form except for the charming rhythm of the entire composition. . . . Just as you cannot pause on

12. *Ibid.*, p. 61.

13. *Ibid.*, p. 67.

14. *Ibid.*, p. 71.

15. *Ibid.*, p. 73.

one tone in a symphony, [the same way] so you cannot remove one architectural link from the chain.¹⁶

Ginzburg devotes the rest of his book to an analysis of the artistic aspects of rhythmical compositions: the picturesque, the monumental, and the harmonious in their historical development. He finds early manifestations of picturesque compositions in the Erechtheum on the Acropolis in Athens and in the placement of the monuments on the Acropolis "The Parthenon is elementary, rhythmical, because the rules of its dynamism are simple and its composition is easily comprehensible. . . . The essence of the Erechtheum's dynamics is completely different. . . . There is a freedom of motion, a somewhat impulsive arrangement of volumes and a charming, if surprising, composition. Yet on close analysis, all this creative unrestraint is the result of more complex rhythmical rules."¹⁷ This rhythmical complexity culminates during the Baroque period, as exemplified by Jacopo Vignola's Chiesa del Gesù (1568-84), Carlo Maderna's Santa Suzanna (1603), and by Pietro da Cortona's Santa Maria della Pace (1656-57), all in Rome. The rhythm accelerates from the edge of their façades towards the central entrance and then decelerates. This surge towards the center and its symmetrical tapering off begins with a flat pilaster at one end followed by a bulging column and then a double column framing the entrance. "The quality of rhythmical strokes and their interspacings result in an expanding drama."¹⁸

Using his notation system, Ginzburg transcribed the rhythmical distribution of beats (pilasters, columns) and intervals (spacing between them, such as walls, niches, doorways). "The same rules of rhythmical acceleration and deceleration of volumes apply to the Erechtheum also, not by [the rule of] symmetry, but by optical balance."¹⁹ During the Baroque period, however, the picturesque effects are augmented by the introduction of "dynamic elements such as a broken cornice, the tension of consoles and lively volutes. . . . The play of light and shadow and the lighting of the architectural monument all became new tools for the creative resolution of the [architectural] issues."²⁰ Ginzburg owed much of his passion for the Baroque and Rococo periods to the original German publications of Cornelius Gurlitt and A. Schmarsow and the 1913 Russian translations of Heinrich Wölfflin's *Renaissance und Barock* (1888). From the latter he re-

16. *Ibid.*, pp. 76-79.

17. *Ibid.*, pp. 82-83.

18. *Ibid.*, p. 85.

19. *Ibid.*, p. 86.

20. *Ibid.*, p. 89.

produced the plan of the entrance façade of the Chiesa del Gesù and the plan of an attached column. From August Choisy came the analytical plan of the Acropolis in Athens, while the photographs of Italian monuments were reproduced from his Italian books.²¹

In the short third section entitled "The Development of Action in the Vertical Direction," Ginzburg turns from rhythmical acceleration in horizontal extension to questions of vertical rhythm. Although he traces the beginnings of vertical dynamism to the ziggurats in Assyria and Babylonia and, thereafter, to the Roman aqueducts and bridges, he also praises the Gothic cathedrals. Rhythm becomes more complex as it ascends, moving gradually and inexorably from the columns and buttresses through the pinnacles and tiny spires to the bell tower, accelerating towards infinite space. Ginzburg concludes that our contemporary aspiration to conquer space requires "new words, new forms . . . as man has already demonstrated with his flying machines" (Ginzburg's only reference to contemporary technology in this book).²²

In the subsequent section entitled "The Issue of Monumentality," Ginzburg defines the latter as the "mastering of rhythm, resolving the dramatic collision of vertical and horizontal forces in a static balance. One must create rhythm in order to master it." Ginzburg finds an early resolution in the pediment of Greek temples where "the [diagonal] lines of the fronton resolve the prevailing tension of the rhythm and control its dynamism by establishing a new and serene orientation. . . . The Greek temple captivates us, because it combines the strength of rhythmical expression with the truly brilliant force of its domination."²³

Ginzburg calls his last topic, harmony, "the mathematical essence of rhythm," and in his survey of relationships between the elements of a building draws from Choisy's studies, Leon Battista Alberti's *De re aedificatoria*, Luca Pacioli's *De divina proportione*, and Wölfflin's *Renaissance und Barock*. Ginzburg gives particular attention to the module of ancient temples, their proportions, and the golden section as well as Renaissance theories of mathematical ratios, but singles out Bramante as the genius

21. At the beginning of Part Two of *Ritm v arkhitektura* (p. 79, footnote) Ginzburg acknowledges his debt to the following sources: C. Gurlitt, *Geschichte des Barockstils, des Rococo und des Klassicismus* (Stuttgart: Ebner and Seubert, 1887); A. Schmarsow, *Barock und Rokoko* (Leipzig: Hirzel, 1897); H. Wölfflin, *Renessans i Barokko*, trans. E. Lunberg (St. Petersburg: Gradushchii den, 1913). During his studies in France and Italy, Ginzburg read the work of many architectural historians, including, no doubt, A. Choisy, *Histoire de l'architecture* (Paris: Gauthier-Villars, 1899).

22. Ginzburg, *Ritm v arkhitektura*, p. 95.

23. *Ibid.*, p. 97.

who "mastered the idea of harmonious perfection."²⁴ Ginzburg also compares proportional relationships in architecture to music, to harmonious "chords consisting of melodious notes. The key of the part reveals the totality and, conversely, after the whole has been played, the detail becomes the tune, an echo, a vocalization of the totality, a vibration in the air [continuing] well after the chords have died out."²⁵

In conclusion, Ginzburg summarizes the laws of rhythmical organization: "... the pure rhythm of horizontal continuity—the magic of a purely musical sensation; the rhythm of acceleration and deceleration resulting in a passion for the picturesque; mastering rhythm and ... monumentality which provides us with a deep feeling of repose; and the harmonious and rhythmic modules which together determine the esthetic significance of architecture."²⁶ But only some of these laws have been applied and perfected. Each historical period and architectural style begins with an archaic search for monumentality, followed by a Golden Age of the arts where monumentality is replaced by harmony. After achieving perfection, however, the period declines, the arts become more decorative, and the picturesque takes precedence. "A new stream of creative power, new geniuses are needed to begin the period of archaism anew and to restate the issue of monumentality. ... Of course, the task of contemporary architecture is to seek the formal elements and laws of their combinations which will express the rhythmical pulse of our time."²⁷

Ginzburg's theory of the development of styles within the historical periods of Western culture and the transition from one period to the next bears the clear influence of Wölfflin. Both promoted a cyclical evolution of stylistic change resembling a spiral wherein each cycle encompasses a higher esthetic complexity. The other obvious source for Ginzburg's definition of rhythm as a continuous thread running throughout all periods of Western culture is Friedrich Nietzsche. In *Die Fröhliche Wissenschaft* Nietzsche first announced his doctrine of the eternal recurrence of the same events, albeit after long intervals. This idea was expanded and applied to stylistic cycles by Oswald Spengler in *Der Untergang des Abendlandes* of 1918 whose popularity in Russia well preceded the 1923 translation.²⁸ Still, unlike Spengler, Ginzburg does not condemn the final, decorative phase of a style as decline, but, like Nietzsche, finds qualitative achieve-

24. *Ibid.*, p. 113.

25. *Ibid.*, p. 114.

26. *Ibid.*, pp. 106-07.

27. *Ibid.*, p. 116.

28. O. Spengler, *Zakat Evropy* (Moscow, 1923). Spengler acknowledged his debt to Nietzsche.

ments at all stages. Nietzsche's influence, either direct or through Spengler's interpretation is evident in Ginzburg's subsequent theoretical books, *Stil i epokha* [Style and Epoch] of 1924 and *Zhilishche* [Habitat] of 1934.²⁹

Ginzburg began to work on *Style and Epoch* (1924) while *Rhythm in Architecture* was being prepared for publication and it could be considered a response to the concluding appeal of the former to "express the rhythmical pulse of our time." Ginzburg believed in a scientific approach to architectural history, for "the history of styles, as of all history, is objective. History does not evaluate styles as 'better' or 'worse'."³⁰ For him, rhythm was a continuous and impersonal link throughout architectural history, an idea that he emphasized in his *Style and Epoch* (based on a lecture that he delivered at MAO [Moscow Architectural Society] on May 18, 1923).³¹ Ginzburg now saw his main task as defining the particular ideas of his own time which must be reflected in the new style, reaffirming that "... the system of an architectural style consists of a number of aspects: spatial and volumetric ... these [formal elements], organized according to various compositional methods, give rise to the dynamic aspect of rhythm."³² The dynamics and expression of movement, found in Gothic and Baroque architecture, are "most avidly sought by contemporary architects."³³ Ginzburg devotes a chapter to the rhythm of his own time as manifested in new technologies which he entitles "The Machine. The Influence on Modern Art of the Static and Dynamic Properties of the Machine." Ginzburg admires the precise organization of the machine wherein nothing is accidental. "Nothing could be added to the machine

29. Ginzburg's *Stil i epokha* (Moscow: Gosudarstvennoe izdatelstvo, 1924) has been translated into English by Anatole Senkevich, Jr., as *Style and Epoch* (Cambridge, Mass.: MIT Press, 1982). In his introduction Senkevich discusses the influence of Spengler and Wölfflin on Ginzburg's work. For a discussion of Nietzsche's influence on Ginzburg, see M. Bliznakov, "Nietzschean Implications and Superhuman Aspirations in the Architectural Avant-garde," in B. G. Rosenthal, ed., *Nietzsche and Soviet Culture* (Cambridge: Cambridge Univ. Press, 1994), pp. 192-204.

30. Ginzburg, *Ritm v arkhitekture*, p. 116.

31. Founded in 1867, MAO was reorganized in 1922 with Alexei Shchusev as president. The society hosted several public lectures, sponsored many architectural competitions, and in 1923 Ginzburg initiated and edited its journal *Arkhitectura*, the two issues of which featured his articles. MAO was dissolved in 1932 when its members joined the Union of Soviet Architects. On February 8, 1924, Ginzburg summarized the contents of *Style and Epoch* at a session of RAKhN (Russian Academy of Artistic Science) (see N. Mislér, "A Choreological Laboratory," in this volume).

32. M. Ginzburg, *Stil i epokha. Problemy sovremennoi arkhitektury* (Moscow: Gosudarstvennoe izdatelstvo, 1924), p. 23.

33. *Ibid.*, p. 71.

or taken away without disrupting the whole. . . . Actually, what we encounter in the machine . . . is the clearest expression of the idea of harmonious creation, something elaborated long ago by the first Italian theoretician, Alberti." In other words, the machine impels us towards "clarity and precision in the formulation of creative ideas."³⁴

The machine, therefore, is a symbol of the new age, a testimony to the viability of Alberti's architectural rules for both contemporary technology and architecture. An emblem of our time, the machine exists because it moves:

A machine that is not dynamic, in the most rudimentary sense of the word, is an obvious absurdity. . . . Any machine is the consequence of movement in a particular direction . . . [which] is in an axis located out in front of its trajectory representing an ideal goal that cannot be attained; because attainment would equal the state of equilibrium and this would terminate the active motion of the machine. . . . [Motion], therefore, produces a certain unfulfillment, an unsatisfied aim, a tension. . . . Indeed, just as the most poignant aspects of the Baroque lie in those elements which manifest an obvious unfulfilled movement . . . so all the forces and poignant tension in contemporary construction derive from the incompleteness and perpetual unfeasibility of their dynamic tendencies. . . . Hence the final conclusion that the machine imposes upon us—a logical opportunity for contemporary architects to conceive and create asymmetrical forms.³⁵

So as to communicate "the dynamic content" of architectural stylistic groups, Ginzburg devised a system of vector diagrams, starting with "the harmonious architecture (Greece in the fifth century B.C., Italy in the early sixteenth century) where horizontal and vertical forces are in complete balance. . . ."³⁶ Figure two represents the idea of monumentality as achieved by the predominance of horizontal forces (Egypt, Italy in the early fifteenth century). Figures three and four are "striving upwards to reveal the predominance of vertical forces (Gothic)" while the fifth "depicts the system of movement in a Baroque monument, where diagonal forces, as in the general principle of acceleration and deceleration, are dispersed, vainly trying to regain their axis of movement. The final figure is a scheme for the movement of a machine (an automobile) where all forces aspire

34. *Ibid.*, pp. 93-94.

35. *Ibid.*, pp. 102-06.

36. *Ibid.*, p. 106.

towards the axis of movement that lies outside"³⁷ (Fig. 212). A. Vesnin's competition entry for the Palace of Labor provides the architectural equivalent of a "dynamic diagram of a contemporary architectural concept" (Fig. 213).

Based on new research in visual perception, these vector diagrams indicate how we perceive the dynamic form of a building or a machine. A primary source of information here was the philosopher and psychologist Wilhelm Max Wundt, who helped establish physiological psychology as a positive science.³⁸ In Ginzburg's words, ". . . modern psycho-physiology has established that various elements of form (line, surface, volume). . . provoke emotions of satisfaction and dissatisfaction just as various colors and sounds do."³⁹ He explains further that

Wundt has determined that we experience the sensation of pleasure when we perceive a line that is more comfortable for the eye to follow—such as a vertical or horizontal line—when the muscles of the eye expend a minimum of energy. For this reason, an irregular and sharply broken line creates an uncomfortable sensation, since the eye must constantly change direction through the angular movement which causes the nerves stimulating the muscles and the muscles themselves to experience painful sensations.⁴⁰

The psychology of perception became the scientific basis for the educational method in the Basic Division at Vkhutemas. Indeed, Nikolai Ladovsky, founder of Asnova [Association of New Architects] in 1923 and the leading theoretician of the Rationalist movement, devoted his energies to defining the principles of visual orientation in space and the urban environment. In his search for the expressive characteristics of spatial forms, Ladovsky identified "stability" and "mobility" as the hallmarks of his age, specifying several modes of architectural composition—the mechanical, the organic, the static, and the dynamic. The latter was particularly important to the discipline of urban design that Ladovsky estab-

37. *Ibid.*, pp. 106-07.

38. Wilhelm Max Wundt (1832-1920) was the initiator of experimental psychology and the founder of the first psychological laboratory. His pioneering work *Grundzüge der physiologischen Psychologie* (Leipzig: Engelmann, 1874) was translated into Russian as *Osnovaniia fiziologicheskoi psikhologii* in 1880 by Viktor Kandinsky (Vasilii Kandinsky's uncle) and reissued in St. Petersburg in 1914 under the editorship of A. Krogus, A. Lazursky, and A. Nechaev. This information is contained in a footnote (p. 97) in Senkevitch, *Style and Epoch*.

39. Ginzburg, *Stil i epokha*, p. 112.

40. *Ibid.*

lished in 1928 and to the program of the Union of Architects-Urbanists (ARU) that he and his colleagues founded. At their first meeting on October 7, 1928, the members seconded Ladovsky's postulate that "the main characteristic of contemporary cities is the intensive growth of dynamism."⁴¹

Ladovsky emphasized this dynamic character in his 1927 master plan for the new industrial town Kostino and in his competition project for the Green City resort near Moscow (1929-30). Both designs were intended to choreograph the movement of the inhabitants so as to enhance their enjoyment of the architectural environment. In 1930 Ladovsky also proposed a master plan for the expansion of Moscow in the form of a parabola that would have allowed for unrestricted growth. Ladovsky also incorporated the dynamic form of a parabola with its step movement downwards and inwards in his design for the pavilion of the Moscow metro station Red Gates (now Lermontovskaia) in 1935: the undulating configuration guides people from the open space of the street into the enclosed shelter of the subway (Fig. 214).

The Constructivists embarked upon a different path, declaring labor and the proletariat to be "the new dominant social class of today."⁴² Ginzburg devoted most of his life to the problem of workers' housing and in 1928 assumed responsibility for standardized housing within the Construction Committee of the Russian Federated Socialist Republic (Stroikom RSFSR), soon producing five types of housing units for immediate prefabrication and assembly.⁴³ A founding member of OSA [Society of Contemporary Architects] in 1925 and editor of its journal *Sovremennaiia arkhitektura* (SA) [Contemporary Architecture] from 1926 until 1930, Ginzburg also participated in numerous architectural competitions and built several important buildings.

However, Ginzburg was unable to elaborate his ideas of rhythm and architecture in other published treatises, even though his concrete designs relied heavily on concepts of dynamic rhythm. His Narkomfin (Sovnar-

41. "Declaratsiia ARU," *Ezhegodnik literatury i iskusstva na 1929 god* (Moscow: Izdatel'stvo Kommunisticheskoi Akademii, 1929), pp. 552-55. For information on Ladovsky's contribution to avant-garde architecture, see M. Bliznakov, "Nikolai Ladovskii: The search for a Rational Science of Architecture," *Soviet Union/ Union Soviétique* (Tempe, AZ), 7, pts. 1-2 (1980), 170-96.

42. Ginzburg, *Stil i epokha*, pp. 79-80.

43. M. Ginzburg, *Zhilishche: Opyt piatiletnei raboty nad problemoi zhilishcha* (Moscow: Gosstroizdat, 1934), pp. 66-81. Ginzburg completed the book in 1932. See M. Bliznakov, "Soviet Housing during the Experimental Years, 1918-1933," in W. Brumfield and B. Ruble, eds., *Russian Housing in the Modern Age. Design and Social History* (Cambridge: Cambridge Univ. Press, 1993), pp. 101-29.

kom) housing block on Novinskii Boulevard (1928-30), for example, is supported by free standing columns at equal intervals, where the pure rhythm of the repeated cylinders (columns) and space (the void between them) is contrasted with the simple rhythm of horizontal window bands (void) and masonry (mass). Projecting window sills accentuate the horizontal movement which leads the eye forwards toward a distant, albeit unattainable, goal, eliciting the impression of a moving automobile. The long corridors provide a similar dynamic sensation thanks to the rhythmical repetition of the structural columns, accompanying the inhabitants as they move. On the second floor the columns outside the continuous window bands contribute to the dynamic experience of both interior and exterior (Figs. 215 and 216). As Ginzburg stated in *Style and Epoch*: "A row of pillars supporting a beam is a purely constructive problem; at the same time, if the idea of a rhythmical arrangement of these pillars crosses the architect's mind, then the problem becomes an esthetic one."⁴⁴

Similarly, Ginzburg paid homage to the dynamic spirit of the modern age in his Uraloblssovnarkhoz housing in Sverdlovsk (1928-29) (Fig. 217) and in numerous unrealized projects. His designs always contained diagrams of how the future occupants would move, and he would often indicate this by placing pedestrian bridges between the different building volumes at roof level or high above ground. Stairs, an expression of vertical movement, take a prominent place both in apartment units and in public buildings. Ginzburg also used photographs and film strips to communicate potential experience, demonstrating, for example, how marching crowds of people would perceive his 1932 project for the Moscow Palace of the Soviets.

Perhaps nowhere is the dynamism of contemporary life illustrated more clearly than in Ginzburg's proposal for the Green City competition of 1929-30. The master plan was predetermined by an infrastructure of fast roads and analogous power and communication systems which was to run continuously in straight lines as far as the site configuration would allow. Individual housing units raised on stilts one floor above ground level and joined in long rows form covered walkways while securing unobstructed views and privacy for the individual inhabitants. Pedestrian movement is complemented by the rhythmical repetition of the housing stilts. Bus stops, taxi stands, and garages constitute transportation nodes which are connected with recreation facilities, cafeterias, reading and lecture rooms, hobby and game rooms, and so on. Although several houses were constructed in 1931, changing attitudes towards the avant-garde

44. Ginzburg, *Stil i epokha*, pp. 118-19.

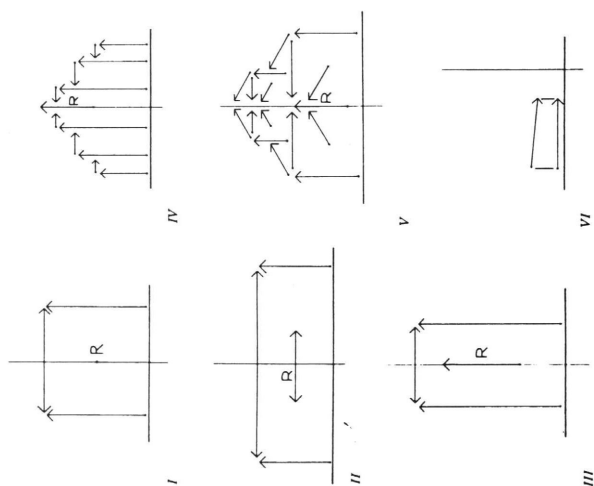
and specifically towards Ginzburg precluded completion of the plan (Figs. 218 and 219).

Ginzburg's *Rhythm in Architecture* was an important step in the development of the Constructivist design methodology. After determining the general laws of rhythm and composition applicable to contemporary architectural design, Ginzburg demonstrated his method in numerous projects. The "spirit of the epoch" induced many theoreticians to define the time of the October Revolution in symbols of dynamism. Time, movement, and flux became subjects for serious artistic investigation and experiment, as, for example, at Inkhuk [Institute of Artistic Culture] initiated by Vasilii Kandinsky in 1920.⁴⁵ A. Vesnin, a primary member of both the Constructivist movement and Inkhuk, presented his theoretical credo there in 1922, reinforcing Ginzburg's concepts of rhythm in architecture: "Our contemporary tempo is fast and dynamic and its rhythm is clear, precise, straightforward, and mathematical. . . . Contemporary engineers are creating extraordinary objects: bridges, boats, airplanes. . . . So contemporary artists could also create objects equal in force, tension."⁴⁶

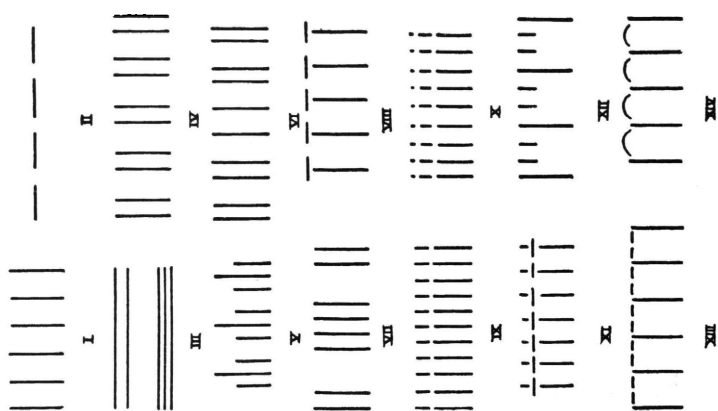
The discussions in Inkhuk continued until it was closed in 1924. Ginzburg's last monograph, *Habitat* (1934) marked the end of the experimental phase in both the theory and practice of Soviet architecture. Yet even his last built project, the sanatorium in Kislovodsk, relies on a rhythm of double columns on the ground floor, a more complex rhythm of interchanging single and double columns on the top floor, and a rhythmical exchange between the open logias and enclosed walls in the intervening floors. In spite of major formal and stylistic changes in the 1930s and 1940s, Ginzburg's fundamental ideas on the rhythm of architecture continued to influence his many students and collaborators and now comprise a legacy that is still valid and relevant to our own time.

45. Among the papers presented at Inkhuk were Anatolii Borisov's "The Rhythmics of Space," and "An Analysis of the Understanding of the Object in Art." See C. Lodder, *Russian Constructivism* (New Haven, CT: Yale Univ. Press, 1983), pp. 78-101.

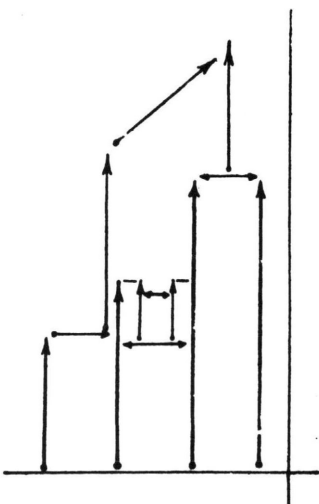
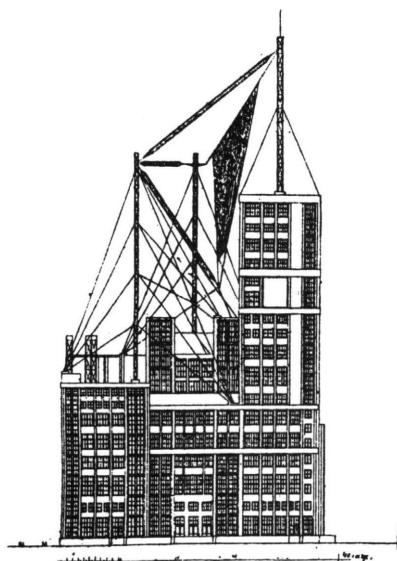
46. A. Vesnin, "Kredo (1922)," in M. Barkhin and Yu. Yaralov, comps., *Mastera sovetskoi arkhitektury ob arkhitekture* (Moscow: Iskusstvo, 1975), Vol. 2, p. 14.

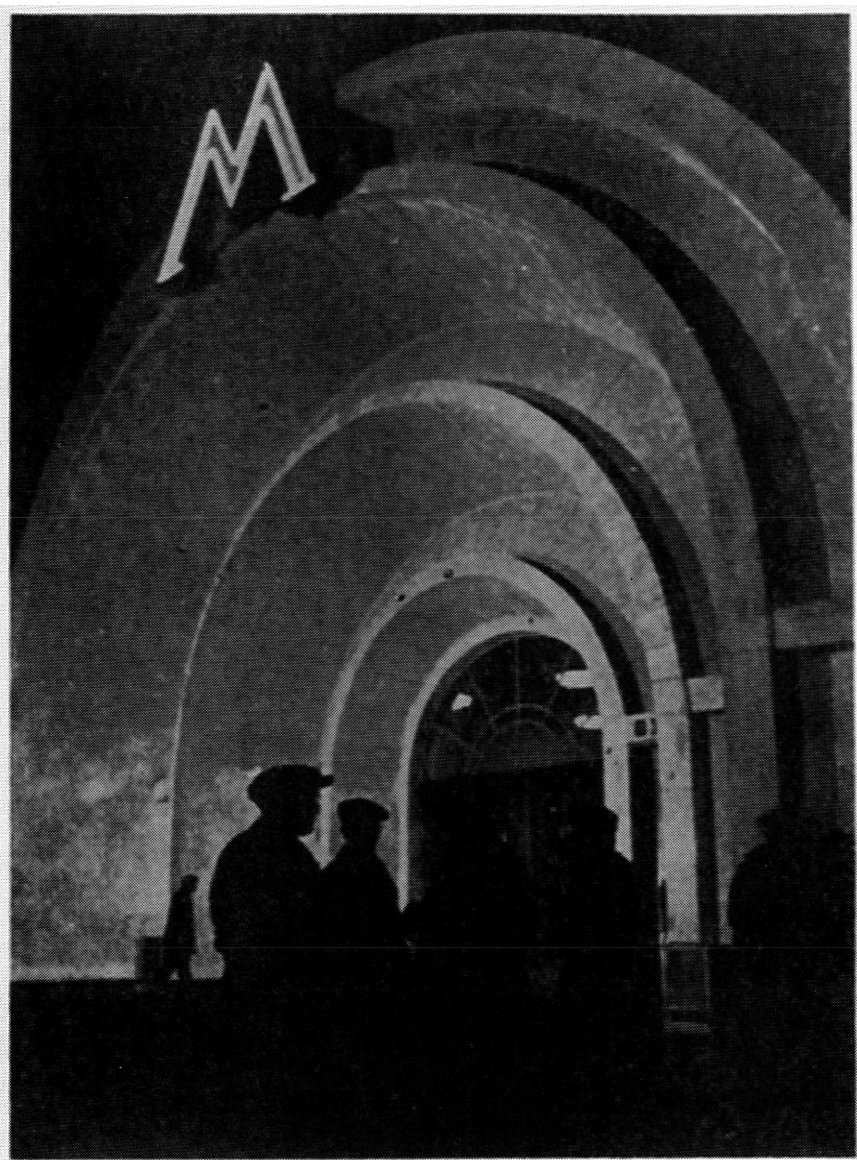


212



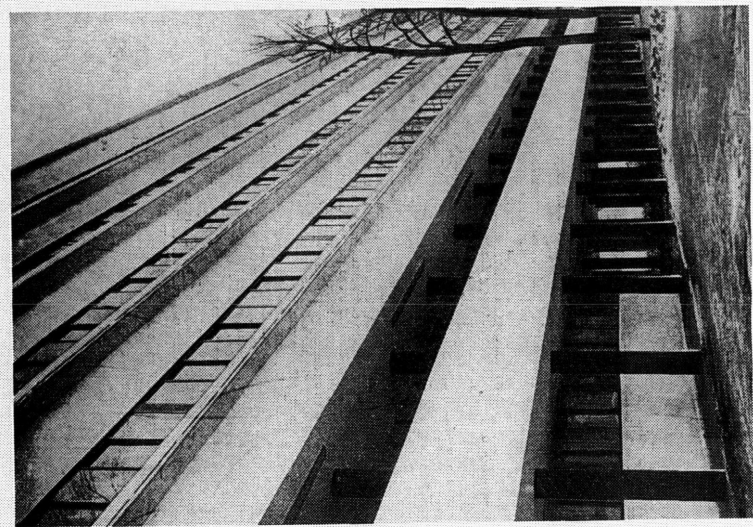
211







216



215



