




## Stalin's PowerPoint

Dennis Tenen

Information design has entered the mainstream in the past decade. No longer the exclusive domain of scientific literature, tables, network diagrams, scatter plots, and polar graphs are now a routine occurrence on the pages of *The New York Times* and *The Washington Post*. The tools for creating such graphics are increasingly accessible to the non-specialist. These range from “canned” charts in spreadsheet and presentation software, to powerful interactive data visualization platforms like *Gephi* and *Graphviz*, to fully-customizable programming languages and language libraries like *D3.js*, Python’s *matplotlib*, and *Processing*. And yet, data visualization, conceived as an object of study, has been slow to penetrate academic literature, particularly in the humanities. A researcher working with quantified visual methods may be expected to wield the tools, but will find it a difficult task to consult an authoritative history of their usage. The widely available series on the display of quantitative information by Edward Tufte’s is often recommended in this regard, but constitutes more of a style guide than a book of history or criticism. His methodology usually consists of analyzing an ad-hoc corpus of illustrations, culled from the annals of space exploration, cartography, advertising, newsprint, and propaganda, with the purpose of making a normative point related to the best or worst practices in the field. My treatment of the Soviet materials in this article aspires to make a modest contribution to a particular narrative in the history of modern art. The larger ambition is to stage a new thematic, influenced by the contemporary practice of data visualization. Such an experiment in history making leads to a rich archive and to novel explanatory models that avoid some of the limitations of traditional historiography.

MODERNISM / *modernity*  
VOLUME TWENTY ONE,  
NUMBER ONE,  
PP 253–267. © 2014  
THE JOHNS HOPKINS  
UNIVERSITY PRESS

**Dennis Tenen** is Assistant Professor of English and Comparative Literature at Columbia University, where he teaches courses on digital humanities and new media. His work combines critical and computational approaches to the study of texts, communities, and technology.



For those not familiar with Tufte's work, a good place to start is his pamphlet on *The Cognitive Style of PowerPoint*. This short—30 pages or so—work offers an elegant argument against certain pernicious data-presentation practices pervasive among corporate and government bureaucracies. The problem with *PowerPoint*, according to Tufte, is in its template system. The program encourages sequential, low-density, “thin” information, organized in neat bullet points that can be read from far away. This method of communication works well for a corporate sales pitch, but is problematic when used by NASA engineers, for example, as illustrated in the case of the space shuttle Columbia. Tufte argues that in analyzing what seemed to be a relatively minor take-off accident, NASA engineers presented their findings in *PowerPoint* slides (instead of printed technical reports), which served to obscure crucial information that could have prevented the disaster. The consequent report by the Columbia Accident Investigation board largely agreed with Tufte's findings, recommending against this practice, which it called, derisively, “engineering by *PowerPoint*.”<sup>1</sup>

For the historian who finds this type of analysis convincing, Tufte's work contains several important implications. The first is thematic. *The Visual Display of Quantitative Information* and its companion volumes contain a wealth of historical material that does not normally find its way into the history books. Tufte does not aim to write a history, however. Similar in purpose to William J. Strunk, Jr. and E. B. White's *The Elements of Style*, *VDQI* is a manual of sorts. It is a collection of best (and worst) data design practices. Where Tufte includes the illustrations to make a normative point, he also begins to outline a systematic history of data visualization. Despite the contemporary ubiquity of bar graphs, pie charts, scatter plots, and network diagrams, little critical attention is devoted to the phenomenon outside of the data design community. However contemporary the figures seem to the reader, Tufte's compendium shows a glimpse of a vast and still-unexamined historical archive. The scholarship of Johanna Drucker, Ian Hacking, Lev Manovich, and Warren Sack, among other select few researchers, has breached the subject. But the output remains largely theoretical. Jacques Bertin's *Semiology of Graphics* is the closest thing we have to a comprehensive synchronic treatment of diagrams, networks, and maps. Seminal diachronic work is absent for even the basic figures.

“Critical understanding of visual knowledge remains oddly underdeveloped,” Johanna Drucker wrote in a 2010 article on what she calls “graphesis,” defined as “the field of knowledge production embodied in visual expression.” She blames the marginalization of graphesis on the “logocentric and empirical” biases of academic epistemology.<sup>2</sup> More than a bias, I would argue that information design resists easy categorization by definition. Not quite art because often too ugly, too mundane, or too instrumental, and not quite science because sometimes imprecise or downright misleading, it exists on the margins of history of art and history of science, in business schools and marketing programs, in the departments of art and architecture, computer science, and statistics. Data visualization is not only *categorized* as an ambiguous artifact, it is ontologically so.

Visualizing data does not always produce knowledge—it can also obscure or challenge that which is known, disrupting established epistemic regimes.

As part of that dynamic, the Soviet materials favored by Tufte illustrate what I am calling here the “thin data” problem. Tufte’s publications abound with Soviet-era documents. One reason for this is the abundance of Soviet and even early Soviet specimens. The Soviets were early innovators in the field of data design, producing work that still elicits emulation in the twenty-first century. At the same time, Tufte frequently uses Stalin-era graphics as examples of worst practices in data design, full unnecessary “chart junk” that carries no meaning and high on the “lie factor” scale. For example, the *Cognitive Style of PowerPoint* begins with a table comparing the median number of entries in data matrices for statistical graphics in various publications. On top of that table is the journal *Science* with more than a thousand data points per table. *Nature* and *The New York Times* follow closely behind with 700 and 120 average data points per table respectively. *PowerPoint* slides are at the bottom of that list, with 12 data points, followed only by the Soviet daily *Pravda*, with average data density of five.<sup>3</sup> At once pervasive and empty of content, Soviet graphics often have the shape of data design, but without the data. I will argue here that such paucity of information is typical of many Soviet documents from the interwar period (roughly, the 1930s), which, as we will see, was a formative period that heralded the emergence of a new and now universally-recognized aesthetic.

Take, as a starting reference point, the poster in **Figure 1** by Pavel Sokolov-Skalia from 1939.



Fig. 1. Pavel Sokolov-Skalia, “From Station Socialism to Station Communism,” 1939. Image in the public domain.

◀ Photograph by the author.

256 It depicts the metaphorical “revolutionary locomotive” on the way from Station Socialism to Station Communism and under the “experienced guidance of Engineer Stalin.” The railroad metaphor is reinforced by the timetable awkwardly labeled “The Completed Movement of the Bolshevik Train.” The train schedule should, we expect, illustrate the Marxist chronology of political development: time going along the vertical axis and the various “-isms” playing the part of station names along the horizontal. But the Soviet Union did not follow the prescribed path of Marxist progress, nor could the state planners ever agree on (or, perhaps, risk committing to) an actual timetable of communist economic development. In the era of purges, an artist could ill-afford errors in ideological judgment. Sokolov-Skalia solved the problem by labeling the initial stations of the “train schedule” after revolutionary newspapers. These, unlike “socialism” or “communism,” could at least be dated to a specific point in time. The schedule has the train departing station *Iskra* in 1900, arrive at *Dekabr* at 1905, move on to *Pravda* at 1912, and pass through “station” *Octiabr* at 1917.

Things begin to get stranger at “station” Socialism, which repeats twice on the chart. The plateau in the middle of the graphic suggests some vague notion of “now,” whereas “station” Communism extends beyond the boundaries of the table, in the distant future, at a different scale and also without specific temporal coordinates. The graphic keeps some of the conventions of a time plot, violating many others. Note, for example: the mixing of time and “station names” on the y-axis, the illusion of variable slope, and the skewed column of cells in center—distorted by the redundant label mid-vector. It would be easy to dismiss this mess as the work of a scientifically illiterate hack or as mere propaganda. But the solutions are also quite ingenious. Katerina Clark puts it well when she writes that “Stalinist intellectuals were the adepts and encoders [...] expected to divine the essence of both Marxist-Leninist ideology and the current Party platform and present it in coherent, if often allegorical form.”<sup>4</sup> In this light, the distorted timetable of the revolutionary locomotive is a creative attempt to order inherently messy ideological information using the advanced (for the time) tools of then incipient data science.

Propaganda posters in this period were made to introduce the sciences of order and organization to the public. These compound, multi-modal images asked people to keep up with schedules, to fulfill quotas, and to understand projected figures. The designers responsible for that message faced a particular challenge. Their graphics borrowed from the visual vocabulary of development economics. But they were forced to use that vocabulary under the conditions of numerical inexactitude, in a country where statistical figures were often distorted for political reasons.<sup>5</sup> We see then a curious dynamic develop between scientific and artistic modes of discourse, by which certain formal attributes of industrial planning and quantitative data design were co-opted into purely stylistic principles of visual composition. Unattached to any notion of underlying reality in the extreme case, the aesthetics of thin data are devoid of all but compositional meaning. That Soviet statistics lie is not in itself a surprising finding. What warrants attention is a common morphology of ordering structures, which extend across boundaries and between discrete domains of cultural activity.

## The aesthetics of empty quantification

Art history often ignores visual space. By this I mean actual visual space, as in “images commonly encountered everywhere,” and not just on museum walls or in private studios. In the Soviet case, the story told about visual art usually progresses through a series of *-isms*: from futurism, to constructivism, *faktura*, suprematism, to social realism—all movements of much theorizing and manifesto-making. For example, in the excellent and widely cited monograph *The Total Art of Stalinism: Avant-Garde, Aesthetic Dictatorship, and Beyond*, the discussion moves from Malevich directly to Stalin’s “aestetico-political coup” which heralded the death of avant-garde and the birth of socialist realism.<sup>6</sup> Catrina Clark’s recent book, subtitled *Stalinism, Cosmopolitanism, and the Evolution of Soviet Culture*, unpacks the 1930s much more carefully, but contains no mention of data design or information graphics. Data, however anachronistic of a term, is nowhere in the critical vocabulary. Subsequently, the artifacts of data visualization remain invisible to the analysis.

The terms of traditional art history fail to capture the specificity of the image in the first of our “close readings.” Sokolov-Skalia’s poster is neither abstract, nor avant-garde, nor realist in any sense of the word. Yet, the visual style is clearly recognizable as part of an aesthetic emerging in the interwar period. What are its identifiable characteristics? Take the poster in **Figure 2**, for example, by Gustav Klutsis, from 1931.



Fig. 2. Gustav Klutsis, “Komsomol, to a record crop,” 1931, and the same rotated 90°W. Image in the public domain. Wikimedia Commons.



258 The image shows a typical device for Klutsis and other practitioners of the photo-montage: the juxtaposition of photographic images.<sup>7</sup> An unexpected feature of the composition emerges when we turn the image on its side. The rotors of the combine resemble a bar graph, which makes sense together with a slogan compelling Communist youth to a record crop. Viewed vertically, the composition is cinematic, but meaningless: the combine is getting closer. Viewed horizontally, the composition acquires an econometric meaning: the crop is increasing with time.

The technique is representative of Klutsis's "middle" period, between constructivism and realism (after the intersecting planes and before the happy children).<sup>8</sup> The critical literature sometimes refers to this style a "factography," defined by the primacy of the camera as a technology of seeing without mediation. In describing the period, Benjamin Buchloh, a prominent art historian of the period, writes that "*faktura*, an essential feature of the modernist paradigm that underlay the production of the Soviet avant-garde until 1923, was replaced by a new concern for the *factographic* capacity of the photograph, supposedly rendering aspects of reality visible without interference," exchanging the "indexical materiality of the trace of a verifiable process, tactility of the construction of incoherent surfaces and spatial reference" for "the monumentality of the camera-angle's awesome visions and the technological media optimism it conveys."<sup>9</sup> And yet "montage" or "monumental propaganda" (as critical constructs) are insufficient to fully capture the recognizable visual specificity of the 1930s. With the state's new-found emphasis on economic and industrial development, Klutsis and his colleagues begin to integrate numerical data into their design practice. These early info-graphics juxtapose not just images (as in the photo-montage of the 1920s) but narrative and quantitative information, creating multi-modal collages that layer pictures, words, and numbers.

In the Soviet context, the aesthetics of quantified information are further refracted by the necessity of creating persuasive graphics under the conditions of thin data. New sight lines and new perspectives were initially enabled by optical innovation in film and photography. But in a later development, they unfold along the pathways of data design, as a function of data projection. The favored (and often repeated) image at the background of many graphics from the period is the crooked pipeline of an industrial factory, which resembles the line plot of upward progress. In a 1931 industrial poster by A. Lubimov (**Figure 3**), for example, we observe a compound synecdoche in which industrial infrastructure and abstract motivational goals of the five-year plan become one.

The device makes literal what Klutsis calls "art that stands on the level of socialist industry."<sup>10</sup> At first glance, the image is representational. Factory employees, busy at their stations, urge their fellow workers not to delay production: "shock-work," working hard and long hours, will insure the timely delivery of "equipment for new construction." A more careful look at the composition, from farther afield, reveals the relation between the seemingly meaningless (although topically relevant) elements. The pipe leading up to the tall silo bends sharply to imitate the saw-tooth curve of the rising line graph. The silos reinforce the upward trend as bar charts. The workers too inhabit an empty quantified field: they stand in various poses in front of what looks like window panes or graph paper. A cord connects each workstation to a beam in the



Fig. 3. A. Lubimov, "With shock-labor we will ensure prompt delivery," 1931. Image in the public domain. Wikimedia Commons.

ceiling, forming yet another series of blank small multiples<sup>11</sup> against the background. The designs by Klutis from this period are often much more explicit in this regard, overlaying literal graphs on top of drawings, figures, and photographs.

Stalin's own reports, presented at the party plenum every few years or so, exhibit much the same shift from flat, dense narrative reports to stylized data visualization. His *Political Report of the Central Committee to the 16<sup>th</sup> Congress of the C. P. S. U. (B)* in 1930 contains an analysis of the country's economic situation, complete with the ac-

260 accompanying economic data. The economic portion of the speech follows a set pattern: the qualitative assessment of the given economic indicator, followed by quantitative support. The data is sparse, with the numbers appearing in-line with the text of the speech—just as we saw in print a decade earlier. The data is there, but it is weakly structured, and often simply interspersed within the narrative. The 1934 report to the 17<sup>th</sup> Plenum differs strikingly in appearance (*Figure 4*).



Fig. 4. Illustrations from Stalin's report to the 17th Party Plenum in 1934. Published by Partizdat, pages 14–16.



Here too we see a move from unstructured (narrative) to structured data: tables, charts, and diagrams. The tables are pretty thin, containing on average 15 to 25 entries. By contrast to the earlier reports, the pamphlets of the mid '30s are intended for a mass audience: the text is set in large font, accompanied by brightly colored, full-page graphics. These graphs make use of the same cliches (almost verbatim!) we have encountered in the posters: silos, pipes, combines, line graphs, trains, and numbers. Multi-modality and thin quantification in just such a mix of numerically symbolic and graphically representational figures is in fact the defining feature of graphic design from the period. The tremendous print runs (in the millions) of such documents and the enforced nature of their distribution practically insured the rapid formation of a new national aesthetic.

**Projection**

However invisible in the history books, I believe these specimens to be overwhelmingly representative of the visual space of the period. More than representative, my initial findings suggest the complete saturation of the urban public visual space with exactly such images.

To test my historical intuitions in this regard, I took a three-month random sample from the highest-circulation Russian daily newspaper for the years of 1915, 1925, and 1935.<sup>12</sup> In going through the newspaper archive, I counted the frequency with which structured data design<sup>13</sup> appeared in each issue (*Figure 5*).



Fig. 5. A comparison of Russian and Soviet daily newspapers 1915, 1925, 1935. A composite image by the author.

262 In the period between March 6th and June 15th of 1915, in the pre-revolutionary *Russkoe Slovo*, I counted 42 instances of structured data design, with 23 of these being little more than regular geographic maps with some overlaid information (usually related to troop movement). The newspaper's rather sizable advertising section (which often took the front page) contributed an additional 48 instances, mostly in the form of bank statements, shareholder reports, and lottery proceedings. These most often took the form of simple charts. In the period between April 1 and June 30th of 1925, the Soviet *Pravda* appealed to data graphics 44 times, again mostly in the form of simple, low-density tables. An additional 10 instances can be attributed to the then greatly-diminished advertising section.

In 1935, the newspaper landscape looks drastically different. Over 266 tables, charts, diagrams, and compound maps clutter the six pages of the daily edition: that is, roughly five instances per issue and a little under one instance per page. The newspaper published a daily metallurgy report and detailed weekly status reports from the agricultural sector. About once a month the whole front page of the paper was given to such statistics. Something happened between the 1920s and the 1930s to cause a dramatic shift (by an order of magnitude) in the nation's data design practices. The newspaper—what used to be narrative-driven medium—has become significantly more visual and more quantitative.<sup>14</sup>

This change was by no means limited to newspaper print. It must be seen in the context of wider social transformation. In an article published in the January 1931 issue of a trade journal for artists, *For Proletariat Art (Za proletarskoe iskustvo)*, Polina Babina identifies eight challenges that stood before the State Graphic Art Publishing House (*Izogiz*). The first of these was the radical particularization of state propaganda. Babina writes, "If in times past, the poster called for the fulfillment of the five-year plan in four years in a very general way, today it must call for the fulfillment of specific goals in the struggle for the five-year plan. The poster must be saturated with specific material."<sup>15</sup> Specificity, in this case, meant a transition from motivational, slogan-driven signage to images that articulated exact numerical goals, in a mode borrowed from the science of planning and economics, filled with figures and statistics.

Alongside this transition, the party was faced with the very practical problem of conveying this relatively sophisticated message to an illiterate population. In the 1920s, Bolsheviks organized propaganda trains and even propaganda boats, whose main task was to garner support for the struggling Bolshevik movement in the remote regions of the state. By the 1930s the future of the Bolsheviks was no longer in peril, but the party still had considerable difficulty in convincing the population to adopt some of its more unpopular economic policies (like collectivization). For these aims, the spread of literacy was closely connected with ideological indoctrination. Government offices, factories, and collective farms had special programs for the liquidation of illiteracy (*likbez*) and space was allocated for these purposes.<sup>16</sup> Posters and pamphlets on display in these "red corners" were easy to read. They served as teaching aids and propaganda, plastered on the street corners, office walls, museums, in metro stations and in kindergartens.

The principle vehicles of the new aesthetic were posters, reports, pamphlets, book design, and *sten-gazeta* (large-scale newsprint that was literally pasted on the wall)—

mixed media designed for the public space. And Soviet public space was saturated with such multimedia. During the 15<sup>th</sup> anniversary of the October revolution in 1932, for example, lights were made to project figures and slogans into the sky. A screen with an area of 45,000 square feet was used to display slides that highlighted the economic achievements of domestic agriculture. Main squares and major streets of the capital were thematically decorated with giant banners. One of these, placed over the central shopping center (*TSUM*) had the length of 370 feet. The organizers of the event commissioned artists to decorate empty shop windows. Over 150 such displays were created. The main focus of the event, as decreed by the event's central organizing committee, was the accomplishments of the Soviet industry.<sup>17</sup> But the shops themselves were empty. The first five-year plan, as we know, was a response to to an economic crisis.<sup>18</sup> Hypothetical, projected figures and charts in the shop windows covered the lack of supplies within, and so the city itself was transformed into a thin infographic and empty quantification.

As the party prepared its cadres, it also centralized its political message. In March of 1931, the Central Committee published a decree in *Pravda*, entitled *Regarding Poster Literature*. The directive unified all mass poster production under the umbrella of *Izogiz*.<sup>19</sup> By the mid-1930s the number of approved posters decreased from thousands to dozens. While *Izogiz* approved only ten to 12 designs each year, it increased the print runs of each from tens of thousands to millions.<sup>20</sup> In practical terms, the bureaucratic consolidation of the medium normalized the message. Workers, farmers, and city dwellers saw the same images and read the same slogans whether they lived in Moscow or Vladivostok.

## Presentation

"The cadres decide everything!" proclaimed Stalin's image from the face of a widely circulated poster designed by Klutis.<sup>21</sup> The word cadre itself, which is related to the Latin *quadrum*, underscores the party's preoccupation not just with order, but the figure of order. In the case of the Soviet Union at least, the normalization of data and bureaucracy congeals simultaneously, as part of the same process. Tufte captures this dynamic in a captioned photograph on the cover of his *Cognitive Style of Power-Point* pamphlet. The image shows a (real) military parade in Stalin Square, Budapest, circa 1956. Several tightly-packed military battalions are lined up in front of a large monument. Party and state officials stand on a plinth at the base of a towering figure labeled, in Hungarian, "SZTALIN." Lower still is the regular grid of military men at attention. Several boxy spectator tribunes reinforce the framing of the arrangement. In Tufte's version of the photograph, Stalin's statue speaks through a comic-book-like word bubble. "Next slide," he says. The troops respond in similar fashion: "There's NO bullet list, like Stalin's bullet list!" and "The rate of information transfer is asymptotically approaching zero!" In other words: bureaucracy and thin data.

We can now cautiously conclude with the second, and much more speculative thesis implicit in Tuftean literature, namely the hint of a congruence between structures that

264 order men and information. How seriously should we consider the implied juxtaposition between the two grids: a parade and a bullet list? Emptied of content, the figure on the ground (a parade) and the figure on paper (a bullet list) are superficially similar. But is there more to it? Could we find in these shapes a theoretical framework capable of addressing systematic changes across a wide spectrum of ordering structures?

This may be a good time to pause to consider the traditional explanations for such seismic cultural shifts. The historiography I have used here departs from a certain tradition of writing about order as an artifact of a semiotic, representational system of organization. For Foucault (at least in his “archaeological” period), the history of the human sciences is unified by a common history of semiosis: the understanding of signs and their relationship to the world. In what perhaps is the most concise formulation of his project, Foucault writes: “Representation governs the mode of being of language, individuals, nature, and indeed itself. The analysis of representation therefore, has a determining value of all the empirical domains.”<sup>22</sup> We are then asked to imagine a hidden semiotic substratum which underlies all aspects of human activity.

As Foucault himself has acknowledged in the introduction to the English edition of *The Order of Things*, such an arrangement makes it difficult to account for simultaneous change in the surface phenomena. It is unclear who or what is capable of effecting change in the representational substratum. For Foucault, the invisible semiotic layer exists in the unconscious of all those biologists, linguists, and philosophers operating on its surface.<sup>23</sup> Consequently, the mechanisms of historical cause and effect are entirely obscured. Foucault is therefore forced into the difficult position of describing broad social changes without having a coherent model of their influence or propagation.<sup>24</sup>

My brief response to the dilemma begins with an obvious observation. PowerPoint is a tool for making presentations, not representations. In contrast to Foucault’s hidden dynamics of semiosis, the artifacts of structured data design (or parade formations, for that matter) are figures visible on the surface of the organizing activity.<sup>25</sup> Massive organizational structures are massively evident—that is their whole point. There might be other, more sinister and opaque facets of ideological control, but the shapes facing the public (parades and bullet points) transmit order explicitly, without mediation. To quote from the semiotics of Boris Uspensky, “It is necessary to acknowledge as primary the level of analysis which includes conventional devices that aid in the transmission of spatial and temporal relationships, and this without regard for the specificity of depicted objects.”<sup>26</sup> Order, in the case of data tables or military battalions emptied of their content, is just that type of an explicit, spatial relationship between constituent elements. Tables and bullet points are therefore visible and non-representational by definition. Unlike words or pictures (which mean something else) they do not stand for anything. Cells, rows, columns, and tables are things in their own right. They can hold humans, numbers, or words. They morph and evolve to have histories and genealogies of their own and they must be studied in their own right, as superstratum.

The historian Michael Gordin hints at similar hypothesis about the unity of ordering structures. Describing Dmitri Mendeleev’s 1892 metric reform at the Chief Bureau



of Weights and Measures, he writes: "The bureaus were not just meant to standardize measures; they were also supposed to standardize people, both the verifiers and the verified [...] Training in St. Petersburg standardized the inspectors, followed by their distribution to all the corners of the Empire."<sup>27</sup> And then again, it seems appropriate to quote Joseph Brodsky writing about a later period of Soviet history: "In a centralized state all rooms look alike: the office of my school's principal was an exact replica of the interrogation chambers I began to frequent some five years later [...] and those stuccoed walls of my classrooms, with their blue horizontal stripe at eye level, [ran] unfailingly across the whole country, like the line of an infinite common denominator."<sup>28</sup>

Much remains to be said about such lines, of best fit and for bread, database and tank columns, table cells and the cells of a prison. But even a small theoretical shift towards presentation enables the discovery a vast and largely unexplored documentary archive. It makes possible a history capable of observing broad social change, across multiple domains of human activity. In the case of the Soviet Union in the interwar period, attention to data design helps discern a major visual shift, in a variety of media, and to witness the development of a centralized organizational aesthetic that continues to shape people and information.

## Notes

1. Tufte 2003, 8–14.
2. Drucker, 1–3.
3. Tufte 2003, 5.
4. Clark, 28.
5. See, for example, Jasny, 1–33.
6. Groys, 35.
7. Buchloh, Dickerman, and Gough all provide an excellent extended discussion of photo-montage.
8. A good "bird's eye" overview of Klutis's career can be found in a 2004 volume published by the International Center of Photography, *Gustav Klutis and Valentina Kulagina: Photography and Montage After Constructivism* (ed. Margarita Tupitsyn).
9. Buchloh, 103.
10. *Izofront*, 120.
11. Sometimes also called trellis or panel charts.
12. *Russkoe Slovo* and consequently *Pravda*.
13. Defined after Bertin as charts, tables, graphics, and schematic maps (Bertin 2–13, 100–137).
14. See Lenoe's *Closer to the Masses: Stalinist Culture, Social Revolution, and Soviet Newspapers* for an extended history of Soviet newsprint.
15. In Tolstoi, 205.
16. Vashik and Baburina, 272–273.
17. *Ibid.*, 274.
18. Fitzpatrick, 40–62.
19. Tolstoi, 213–214.
20. Vashik and Baburina, 275.
21. *Kadry reshaiut vse!*
22. Foucault, 209.
23. *Ibid.*, 208–210.

24. At this point of his career, Foucault believes that we should, for the moment, be satisfied with mere description of change, because history lacks a methodology to explain cause and effect. Traditional explanations of change—zeitgeist, technological, sociological, and political influences—are, in his words, “magical and ineffective” (Ibid., xiii).

25. I am reminded here of “surface reading” as proposed by Stephen Best and Sharon Marcus, who write: “To see more clearly does not require that we plumb hidden depths [...] indeed, it may be [...] the best way to move past the impass created by [...] an excessive emphasis on ideological demystification” (Best and Marcus, 18).

26. The Russian reads: “Самым общим—и, очевидно, наиболее важным—уровнем анализа следует признать уровень, рассматривающий условные приемы передачи пространственных и временных отношений в живописном произведении независимо от специфики изображаемых объектов” (Uspensky, 232). Translation by the author.

27. Gordin, 169.

28. Brodsky, 11.

## Works Cited

- Bertin, Jacques, and Marc Barbut. *Sémiologie graphique. Les diagrammes, les réseaux, les cartes*. Paris: La Haye, 1968.
- Brodsky, Joseph. *Less Than One: Selected Essays*. New York: Farrar, Straus & Giroux, 1986.
- Best, Stephen, and Sharon Marcus. “Surface Reading: An Introduction.” *Representations* 108, no. 1 (November 1, 2009): 1–21.
- Buchloh, Benjamin H. D. “From Faktura to Factography.” *October* 30 (October 1, 1984): 83–119.
- Clark, Katerina, E. A. Dobrenko, Andrei Artizov, and Oleg V. Naumov. *Soviet Culture and Power: A History in Documents, 1917–1953*. New Haven: Yale University Press, 2007.
- Dickerman, Leah. “The Fact and the Photograph.” *October* 118 (October 1, 2006): 132–152.
- Drucker, Johanna. “Graphesis.” *paj: The Journal of the Initiative for Digital Humanities, Media, and Culture* 2, no. 1 (December 10, 2010).
- Fitzpatrick, Sheila. *Everyday Stalinism: Ordinary Life in Extraordinary Times: Soviet Russia in the 1930s*. New York: Oxford University Press, 1999.
- Foucault, Michel. *The Order of Things: An Archaeology of the Human Sciences*. London; New York: Routledge, 2002.
- Gordin, Michael D. *A Well-Ordered Thing: Dmitrii Mendeleev and the Shadow of the Periodic Table*. New York: Basic Books, 2004.
- Gosudarstvennaia biblioteka SSSR imeni V.I. Lenina, and N. I. Baburina. *Sovetskii Politicheskii Plakat: Iz Kollektii Gosudarstvennoi Biblioteki SSSR Imeni V.I. Lenina; Soviet Political Poster*. Moskva: Sov. khudozhnik, 1984.
- Jasny, Naum. *Essays on the Soviet Economy*. New York: F. A. Praeger, 1962.
- Lenoe, Matthew E. *Closer to the Masses: Stalinist Culture, Social Revolution, and Soviet Newspapers*. Cambridge, MA: Harvard University Press, 2004.
- Stalin, Joseph. *Otchetnyi Doklad XVII s"ezdu VKP(b) o Rabote TSK VKP(b) 26 Ianvaria 1934*. Moscow: Partizdat, 1935.
- Stalin, Joseph. *Stat'i I Rech'i Ot XVI do XVII s"ezda VKP(b)*. Moscow: Partizdat, 1934 (1930).
- Tolstoi, Vladimir Pavlovich, I. M. Bibikova, N. I. Baburina, and N. I. Levchenko. *Agitmassovoe Iskustvo Sovetskoi Rossii: Materialy I Dokumenty : Agitpoezda I Agitparokhody, Peredvizhnoi Teatr, Politicheskii Plakat, 1918–1932*. Moskva: Izdatel'skii dom, 2002.
- Tufte, Edward R. *The Cognitive Style of PowerPoint*. Cheshire, CT: Graphics Press, 2003.
- Tufte, Edward R. *The Visual Display of Quantitative Information*. 2<sup>nd</sup> ed ed. Cheshire, CT: Graphics Press, 2001.
- Tupitsyn, Margarita, Gustav Gustavovich Klutis, Valentina Kulagina, and International Center of Photography. *Gustav Klutis and Valentina Kulagina: Photography and Montage After Constructivism*. New York, Göttingen: Steidl, 2004.

- Uspensky, Boris Andreevich, and Stephen Rudy. *The Semiotics of the Russian Icon*. Lisse: Peter de Ridder Press, 1976. **267**
- Vashik, Klaus, and N. I. Baburina. *Real'Nost' Utopii: Iskusstvo Russkogo Plakata XX Veka; Title on p. Facing t.p. Werben Für Utopie : Russische Plakatkunst Des 20. Jahrhunderts; Iskusstvo Russkogo Plakata XX Veka*. Moskva: Progress-Traditsiia, 2004.