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### Professional Culture of the Specialist of the Future

#### MAKING THE NEW SOVIET MAN: AVANT-GARDE CHILDREN'S PRODUCTS CREATIVE LEARNING TOOLS

Natalia Nikiforova (a)\*

\*Corresponding author

(a) National Research University Higher School of Economics, Moscow, Russia, [nvnikiforova@hse.ru](mailto:nvnikiforova@hse.ru)

#### *Abstract*

Post-revolutionary culture experimented with abstract art. Suprematist ambitions of creating novel visual grammar of pure colours and simple geometric forms, and constructivist intentions to transform art into engineering through exposing structure and texture of objects, were embraced by the children's goods industry of 1920-s-1930s. Not only the subjects and heroes changed to highlight new socialist values, but the very design and visual features were transformed to convey novel attitude towards culture, labor, technology and nature. New books and toys composed of red, white and black rectangular shapes and lines taught implicitly that the world is not monolithic but can be created and modified by humans. An exciting invention were "do-it yourself books", that could be transformed into figures, buildings, power plants and factories with cardboard and simple instruments, taught technical creativity with insufficient resources and prepared future citizens to be builders of the new country. The paper analyzes avant-garde children's products as "engaging artifacts" and active mediators of new ethos. Through new visual and organoleptic interaction with things children acquired new perspective and turned from consumers and owners of things into their creators and maintainers. The paper emphasizes these conceptual connections between philosophy of art and children's industry, that have been overlooked or taken for granted. In the final section early twentieth century children's products are compared to a contemporary videogame Minecraft in terms of its aesthetics and game mechanics.

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**Keywords:** Constructivism, DIY books, pedology, suprematism.



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## 1. Introduction

The twentieth century is considered “the century of the child”, when childhood was understood as special experience deserving care, attention and specific approaches. This attitude led to a large number of design innovations in the production of children’s products. Contemporary approaches in fact used in today’s ergonomics, creative learning and interactive design that are in demand for educational and professional environments, originated from the aesthetic and philosophical experiments of the turn of the twentieth century (Kinchin & O'Connor, 2012). In particular, children’s interest in creating their microcosm worlds through managing simple forms, patterns and materials was noticed by pedagogues and designers, and became the basis for various design educational strategies. This observation influenced on numerous construction toys that flourished throughout the twentieth century – from Lego blocks to the Rubik's Cube. Similar principles – of learning geometric shapes, learning how to experience space and manage it, how an individual can relate to the surrounding space and communicate with people – are at the core of the twenty-first century digital products, one the most successful and popular of which is Minecraft videogame. In early Soviet context abstract and avant-garde motifs turned out extremely relevant to convey the ideas of the possibility to transform the world, physical environment, unjust practices and humans themselves. The young Soviet state promoted the idea of the “New Soviet Man”, “a harmonic combination of rich spirituality, moral purity, and physical perfection” (Gerovitch, 2007, p.135). Hands-on approach and training of the “new visuality” promoted through children’s products became a powerful tool of conveying this message. Very powerful artistic movements that influenced on the children’s industry were Suprematism and Constructivism. Suprematism was a branch of abstract art suggested by Kazimir Malevich in 1910s. Abstract combinations of simple geometric forms without straightforward subject expressed the ideas of creation, the universe, the life itself (Griber, 2014). The culmination of Suprematist aspirations became the Black Square, that he explained as the initial element or “zero form” of being. Constructivism (whose active proponents were Vladimir Tatlin and Alexander Rodchenko) similarly aspired to free art from its representational task. Laconic geometric abstract structures and compositions emphasized materials and textures, hinted at the functionality of objects instead of expressing beauty and copying the surrounding world. Abstract avant-garde artists were interested in visualizing the invisible – technological change, acceleration of time, speed, industrial rhythm. Another idea underlying non-objective experiments was the search for basic elements in art and formulating new artistic language, a language that became eloquent and vibrant for children’s products.

## 2. Problem Statement

The present research aims at exploring aesthetic, educational and epistemological underpinnings in innovative design of early Soviet children’s products. Conceptual assumptions emphasized in Constructivist and Suprematist books and toys reveal connections with pedagogical discourse of creative learning originated in the XIX century, and with philosophical inquiries of avant-garde artists who searched for new visual language adequate for the new industrial reality. These ideas permeated the design of children’s products throughout the twentieth century and were fulfilled in twenty-first century game digital aesthetics. Highly successful videogame Minecraft echoes modernist visual language and pedagogical aspirations of early twentieth century artists and designers.

### **3. Research Questions**

- to provide cultural background of the industry of children's products in early Soviet Russia;
- to give an overview of Suprematist and Constructivist trends applied in books and toys;
- to specify visual and thematic trends and motifs in avant-garde children's products;
- to reveal aesthetic and thematic connections of twentieth century children's products design and Minecraft videogame;

### **4. Purpose of the Study**

Early Soviet writers, book artists and toy designers actively experimented with avant-garde abstract aesthetics, searching for suitable visual means to express new political realities and socialist ideology, and to reflect on the ongoing technological change and enthusiasm. In this way, Suprematist and Constructivist approaches turned out to be successful to express new attitudes that involved the ideas of transformability of society and nature, the possibility to speed up and control the time, the beauty of technology and desire to make nature and people resemble technology. Functional and geometric design of books and toys reflected philosophical search of avant-garde artists for basic elements in art. The paper emphasizes these conceptual connections between philosophy of art and children's industry, that have been overlooked or taken for granted.

### **5. Research Methods**

The paper analyzes avant-garde children's products through the lens of postphenomenology as "engaging artifacts" and active mediators of new ethos. Through new visual and organoleptic interaction with things children acquired new intellectual and aesthetic perspectives and turned from consumers and owners of things into their creators and maintainers. Postphenomenological approach is a powerful analytical tool that helps understand technology and material artifacts not as neutral instruments, but rather active mediators of human experience.

### **6. Findings**

Post-revolutionary Soviet art aspired to dissolve into casual material culture. Abstract art was very close to design, and was concerned with creating practical things, that would surround people and tune them into the need to create new reality and shape new political consciousness. Thus, artists willingly collaborated with factories. Suprematist and Constructivist clothes, dishes, interior objects, theater settings, books, settings for mass events were created. New visuality was supposed to transform the attitude of Soviet people towards things, their owning and using.

In the young Soviet state, the sphere of children's upbringing was of primary importance. Special organizations were established to control and monitor emerging initiatives. Under the auspices of the People's Commissariat of Education the Institute of Children's Reading was founded in 1921 that reviewed new books and studied children's psychology. In 1920s numerous committees on toys, games and festivities were established. Specialists in pedagogy and pedology (study of children) were working on elaborating prescriptions and recommendations on how learning spaces, materials and texts should look. There were severe discussions between pedagogues and artists, who opposed strict simplified

schemes for children's books. Overschematized approach, according to the artistic community, would kill creativity and expression, and would mislead children's cognitive development. Nevertheless, there was a consensus that new artistic means had to be applied in order to reproduce the rhythm of production process, the transformation of raw materials into goods, the power of technology, the connection of industry with nature, as well as the principles of collective labor. Artists emphasized that their products were to teach children and new citizens new optics, "new visuality" (Fomin, 2015).

A very interesting by-product of the Revolution were children's books and toys intended to instruct creative and responsible young citizens, as was shown by Steiner (Steiner, 1999). It was decreed at this time that children's books could no longer be based on the usual fairy tales and nursery rhymes. The objective of this new literature would be to portray more real-life scenarios intended to reflect the transformations of society and instruct its young audience in the activities, inventions, and values of Soviet reality. Books and toys were designed to shape the juvenile conscience and were enhanced by visual concepts and motifs developed by artists of the avant-garde. As Lissitzky would state: "by reading, our children are already acquiring a new plastic language; they are growing up with a different relationship to the world and to space, to shape and to colour" (Lissitzky-Küppers, 1992, p. 363).

By theorists and politicians, books and toys were seen as ideological weapons, as objects that would expose the striking difference with the old regime, show the advantages and advances of the current political power and promote creative and constructive attitude towards the world and nature (100 Books, 1931). If we generalize the clue requirements, new children's products and events were to promote political ideology, nurture collective action, shape interest in technology and industrial activity, shape positive attitude towards labor, and be anti-religious. Prominent avant-garde artists actively participated in creation of such products, influenced on children's industry, and managed to convey this set of ideological messages not only on the level of content, but also through visual means - composition, layout and colors.

### **6.1. Suprematist Children's Books**

An exceptional piece that was trying to fulfill new political vision was the Suprematist Tale About Two Squares by El Lissitzky (published in Berlin in 1922). This book – or in Lissitzky's words a building – was not written or drawn, it was assembled. On one of the first pages the author encourages the children to take papers, sticks and wood and to build and create instead of reading. This book gave a concentrated image of revolutionary fight and transformation of the world. It was conceived of as a new tale that would replace old obsolete fairy tales. Here the story is told through a combination of dynamic vivid simple forms and verbal signs inscribed into visual composition. Lissitzky made a radical gesture of applying non-objective language of Suprematism to a tale narrative. The story was about the struggle between 2 squares – red and black. Before the victory of the red square, the earth is represented as chaotic and disorganized, and the red square comes from afar and establishes harmony (Fig. 1).

It was a kind of study book, an alphabet of the new art for the new people – it used cutting-edge visual trends and applied new alphabet (introduced after the 1918 reform). The text is made from letters of different fonts and sizes, the words float freely on the surface of the page, which makes the whole layout very dynamic, and requires active involvement of the reader. The text says that this book is for all children – not only for those who read Russian, but also for those who speak other languages, or can not

read at all. The narrative can be understood through visual means, as a movie or a cartoon. This work in many ways is an illustration of Lissitzky's manifest of Suprematism, where he stated that any work of art should be a practical thing, that does not lead people away from life, but helps to organize it. In his terms an artist must turn into a demiurge, a builder, capable of creating and organizing new world (Arzamastseva, 2015). Pure geometric shapes and dynamic layout became powerful visual means to illustrate a new type of Soviet tales – “industrial books.”

## **6.2. Industrial Books**

Children were supposed to be involved in the construction of the new state and participate in productive labor. Publishers had to introduce children to new technology and a variety of professions. This was performed through the so-called industrial books – a new type of tales with new heroes and plots, some of which even encouraged the kids to make their own toy factories, machines and products. These books can be roughly divided in various thematic types – about transport (with a large amount of pieces on steam engines), professions, stories about how things are made, everyday life. These new tales were called upon to beat the old fairy tales and create new social mythology. Although thematically these books might have been different, there were a number of recurrent motifs and themes:

- New stories often contrasted man and machine. Machine was shown as more rational, organized and even beautiful than human. Humans were supposed to be modelled after or even to unite with machines. An interesting example would be the story about the robot Topotun, that taught a dirty boy to treat books (Ionov, 1926). There is an opposition of machine and organic matter. Machine behaves correctly, it is neat and rational and can teach a disorganized dirty human boy.
- Numerous books about transport – railroads, cars, bicycles, airplanes – intensified the feeling of the movement of time, of human capability to control and master space and time, showing the dynamic, changing, rushing world.
- In terms of visual arrangement “industrial books” tended to simplify figures and images– they were not represented as real objects, rather were reduced to signs and symbols. People were not represented as individuals, with their distinct facial features and expressions – sometimes faces were similar or lacked at all – as if individuals got importance only in the collective. These characters remind of Malevich's Suprematist figures (Steiner, 1999, p. 145).
- When machines and material objects were represented against the white empty background of book pages, they looked as museum objects in a show-case. Things were shown without background, without context, there was no surrounding world, as if it had to be built and added (by the reader/viewer).
- People were represented not as passive users or owners of things, but rather as their producer or maintainers.

Industrial theme provoked new optics – attention to structure of objects and the way parts were combined. Revealing the designability of things, nature and people was expressed through constructivist visual means.

### **6.3. Constructivist motifs in children's books**

Constructivist artists introduced novel visual styles into children's literature. As E. Steiner mentions, one of the first instances of renewal of children's books was Lebedev's *Elephant's Child* (1922), where animal figures looked like cubist constructions (Steiner, 1999, p. 42). Lebedev made the background completely white. Figures seem to be assembled of mechanical parts and fixed with joints, the construction of figures is exposed. This again hints at overcoming of organic nature and replacing it with mechanical machines. This book differed greatly from the books of the previous century, where everything was detailed and located in a completed integral world. New books through Constructivist and Suprematist motifs taught that the new world has to be inhabited, and disintegrated parts had to be put together by the viewer (Steiner, 1999). Interestingly, there is evidence, that these novel visual trends were hard to comprehend. Children were interviewed after reading the recently published book by Lebedev, and many of them indicated that figures in the book were cut or torn apart (Steiner, 1999). So, to comprehend this new visual language certain visual culture, or visual training was needed, that these children did not have at the time.

Photomontage was a widespread technique, when photos were combined with text and pictures. It was a vivid and straightforward means to represent the idea of contemporaneity – a recent cultural discovery – a short moment of the present time - the feeling of living at the edge of time. Montage was a means to visualize the rupture between the past and the present (pre – and post-revolutionary time). It was a means to speak about time, history and historical turning points. This method was widely used in cinema, printing, literature and poetry. One of the basic premises of Soviet montage was the idea of constructiveness of humans – people, their bodies and consciousness were considered something that can be re-assembled and enhanced (Kukulin, 2015). Besides, in children's books montage gave additional substance and specificity – the reader could observe a real protagonist, similar to real boys and girls. The use of close-up and angled photography and dramatic layouts helped achieve cinematic effect as pages turned.

### **6.4. Do-It-Yourself Books**

An interesting example of a new type of books were Do-It-Yourself books. Their layout rested on Constructivist ideas, and such books had to provoke creative capabilities. These objects were an echo of the campaign for polytechnic education (Karasik, 2013). One of the most famous and earliest examples was an experiment by Rodchenko – a story about *Samozvery* (autoanimals), published as an appendix to a children's journal in 1926 (Tretiakov, Summer, & Roman, 1981). It describes the adventures of people and animals, but in addition to poems and photos the book included cutting charts that the little readers could use to cut out the protagonists. Here reading and making were treated as one.

Alexander Gromov's series published in 1929 was a continuation of Rodchenko's idea (Gromov, 1929). These books had small note-book format, and contained drawings of houses, factories and steam engines, that children could cut out and create their own games. Similar editions offered drawings of the major objects of the five-year plan resembling architectural models – an electric power plant, an elevator, an oil derrick, a modern building. Such editions taught a child to make something on his own, using card board, and also bits and pieces of metal, textile and wood, or thread bobbins and match boxes. But it was

also important to play production process. For instance, Alexander Abramov in his book offered the readers to make toys in groups applying conveyor method (Abramov, 1932). Many pedagogues and theorists mentioned that toy-making was a natural beginning of more complex and responsible manufacturing practices. Toy-making taught self-sufficiency. Often such books contained chapters on the principles of mechanization of labor and distribution of labor, and children were encouraged to apply these methods, as well as carefully plan time, resources and money before their work (Bykovsky, 1927).

#### **6.5. “Useful toys” for Soviet children.**

An echo of innovative artistic trends may be observed in toy industry. The content and looks of Soviet toys was revised and widely discussed by special committees and theorists in pedagogy. Experts favored industrial theme in toys and games and promoted construction sets and playing with building material (Fig. 2, 3). Such games stimulated creativity and collective action. According to the articles of pedagogues, construction sets were not common by 1920s. For instance, Propper described his pedagogical experiment in a kindergarten in 1923, and only one child from his group of six children was familiar with this type of toy (Propper, 1926). Construction sets or “building material” in Soviet pedagogical literature were seen as a very powerful tool to stimulate children’s cognitive abilities, social and creative skills, to introduce children to geometric shapes, teach them about dimensions and proportions. Sensory experience and manual manipulation were important to train physical abilities. Properties, adequate shapes and sizes of construction materials in accordance with children’s age were discussed extensively. Authors mentioned that Soviet construction toys should consider the experience of XIX century pedagogues Froebel and Montessori (Rybnikov, 1923, p. 20), also American experience was seen very successful and relevant (Fedyaevskaya, 1935; Detkin, 1936). Froebel “construction gifts” were considered good for the development of creativity, since they allowed children to act basing on their curiosity and spontaneity, at the same time teaching symmetry, various properties and dimensions of geometric shapes (Economou, 1999).

The interest of theorists concentrated on the analysis of basic forms and shapes of elements of construction sets, on how these shapes were perceived by children, how they related to surrounding nature and human-build environment. Among the most suitable and interesting, pedagogues indicated cubes, bricks, cylinders, circles, cones, prisms (Rybnikov, 1923). Another important issue involved suitable color of these shapes. For example, Ulitskaya praised toys by craftsman Drugin – complex pyramids made from rings that formed several volumetric layers – for their “musical coloring.” According to Ulitskaya, colors were placed as in an orchestral music fashion – from bass to violin, creating a wholesome visual and tactile experience (Ulitskaya, 1935). The specialized Toy Institute organized game rooms where children could play with new prototypes under the supervision of pedagogues and psychologists. All children’s actions, words, figures made from construction sets were documented, children were interviewed on their experience. Such experiments on the one hand helped elaborate recommendations on enhancing building blocks, on the other hand they were tools for psychological evaluation of children (Propper, 1926). Gender dimension was important for pedagogical specialists, children’s toy and play preferences were evaluated depending on sex. The necessity to develop equally complex and entertaining toys for boys and girls was highlighted. Fadeeva called for revision of toy sets where simple, monotonous and boring activities were intended specifically for girls (Fadeeva, 1935),

which hints to overall discrimination of females in terms of leisure and entertainment (Ulyanova, Sidorchuk, & Sosnina, 2017).

These concerns highlighted by pedagogues very much resemble philosophical problems raised by Suprematist and abstract artists, who were in search for the basic elements in visual arts. Construction sets and toys composed of simple geometric elements, were not something finished and encouraged children to search and be curious.

In 1920s Kazemir Malevich started thinking about translating Suprematist painting into volume and developed an architectural order – a new invariable forming element of architecture. In 1923 he created his 1<sup>st</sup> *architekhtone* – a complex of blocks combined or embedded in one another at a right angle. It was not a project of a precise building, rather an ideal architectural model or principle, whose parts derived from the major archetypical Suprematist form – the black square (Griber, 2014).

Gota *architekton* (Fig. 4) and a sketch made during a pedagogical experiment of children playing with “building material” (Fig. 5) share certain visual and volumetric principles. There is no evidence of toy designers and pedagogues applying Suprematist ideas or citing Malevich. But it seems that pedagogues, artists, pedagogy specialists, toy manufacturers and designers were breathing the same air, formulating similar inquiries – what shapes and elements are required to promote new sensibility and visuality? what visual means could express the new feeling of time and technological change? what visual language would be the best for children to learn to become creators of the new modern life?

#### **6.6. Aesthetic Dimension, Educational Possibilities and Historical Underpinnings of Minecraft**

Minecraft is a sandbox video game developed by Mojang in 2011. The game allows players to build with a variety of cubes, requiring players’ creativity. The fascinating success of the game was unexpected for a game without a particular purpose, especially considering its simple visual design. Minecraft has Education Edition, and educators agree that Minecraft is a primary resource for children to enhance their STEM competences, as well as metacognitive skills (Lane & Yi, 2017) such as reflection and communication, which is considered crucial for successful education (Almazova, Khalyapina, & Popova, 2016; Evseeva, Obukhova, & Tanova, 2017; Kolomeyzev & Shipunova, 2017). Minecraft became very popular for architecture and urban studies programs, since it allows to design buildings, and simulate sociocultural processes. Game structure allows players interact with each other, observe each other’s worlds and communicate productively, which can be assessed as an illustration of “socialization of the Internet” (Bylieva, Lobatyuk, & Rubtsova, 2018a; Bylieva, Lobatyuk, & Rubtsova, 2018 b).

As Fanning and Mir indicate, Minecraft seems to be built on nineteenth century educational theories and the discourse of construction play developed by Froebel and Montessori (Fanning & Mir, 2014). Players – children and adults – manipulate digital representations of materials, create buildings and whole worlds. Minecraft unites active, open-ended concept of the adventure playground with the tradition of educative play envisioned by pedagogues of the XIX century (Fanning, Mir, 2014, p. 38), and also resembles experiments and design principles of creative learning promoted by early Soviet artists and pedagogues.

Game aesthetics is a tribute to the beginning of the digital era. Some researchers point to the resemblance of Minecraft objects to computer glitches. And claim that this glitchy appearance has aesthetic and philosophical meaning. Glitches and pixels appear on the screen, signaling disfunction of



software. Thus, glitches and pixels allow us a glance into software's inner structure, or at least hint at conventionality of software and technology appearance (Goriunova & Shulgin, 2008). This visual organization of the game problematizes the invisible ways in which the digital technologies mediate the user's experience of engagement with the world (Berry et al., 2012). Here pixels, rude square blocks function as basic visual elements of digital aesthetics.



**Figure 01.** Page from the book “Suprematist Tale About Two Squares by El Lissitzky”, 1922

## 7. Conclusion

New Soviet tales and toys were built into the campaign for bringing up the “New Soviet Man” through instructing new Soviet boys and girls to become masters of the environment and builders of the new world. New children's products did not only suggest novel verbal content, but were intended to train “new optics” and constructivist attitude towards the world. This was done through visual patterns and hands-on approach. Abstract art of the beginning of the twentieth century was searching and developing new visual language, being attentive to technological and cultural changes. Philosophical inquiry initiated within art continued in the sphere of design of everyday objects and children's products. Suprematist and Constructivist illustrations in children's books showed the dynamics of the changing world, drew attention to new things and technologies and new relationships emerging between people and things, people and their environment. Unconventional page layout, use of colors and fonts, dynamic diagonal arrangements, photomontage techniques became archetypical representations of historical transformations. Time and temporal consciousness became the subject of visual and textual pieces. In the creation of the new Soviet Person verbal rhetoric was as important, as visual language and new materiality – involving visual counter-positioning of the old and the new, new visual alphabet consisting of simple geometric forms, incorporation of making into the reading process. Books and toys fostered novel attitude towards surrounding reality – the understanding that the world and people can be rearranged and enhanced. Avant-garde discovered new visual grammar which derived from and sought to grasp the specificity of emerging technology. Books and toys designed with these ideas in mind taught not to copy nature but to appreciate the basic forms hidden behind appearances, to see constructive patterns. And these trends seem to be influential and in demand throughout the twentieth and twenty-first centuries, as the example of the Minecraft video game shows. For its gameplay mechanics and open-

ended character Minecraft can be understood as an inheritor of the nineteenth century construction toys pedagogical tradition. On the visual level, the appearance of the game appeals to avant-garde aesthetic meanings. Just as avant-garde of the beginning of the twentieth century celebrated the machine, its functionality and structure, Minecraft aesthetics through its pixels and blocks hints at and celebrates the functionality of the algorithm that is concealed behind the game process.



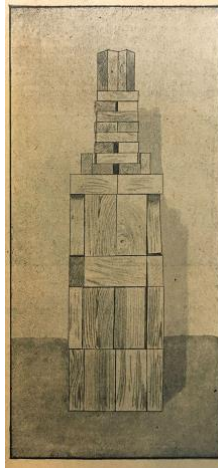
**Figure 02.** Construction set at a toy exhibition, taken from the journal Soviet Toy, №2, 1935'



**Figure 03.** Building material. Album of the “Krasniy Aksai” factory, 1939



**Figure 04.** K. Malevich. Architektone Gota, 1923



**Figure 05.** Fire tower made from building material by children aged 4 – 7. Image from the book *What toys do our children need?* By A. Braun-Gerbo, 1927

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