



BAUHAUS-EFFECT. FROM DESIGN UTOPIA TO INTERFACE CULTURE

Daria A. Kolesnikova (a)

(a) St. Petersburg State University. 7/9 Universitetskaya emb., St. Petersburg, Russia, 199034.
Email: Daria.ko[at]gmail.com

Abstract

The Bauhaus design code might be called the quintessentially industrial-modern diagram. Its coded pattern figures the relationship between the abstraction of machinic processes and that of mediaproduction under contemporary interface culture. The Bauhaus school provided the possibilities for creating an aesthetic-technical production orientation that recontextualizes technology as skilled practice, which sought to restore the old unity of craft, technical and artistic production lost through industrialisation. Nowadays there is a necessity to reconsider the concepts of the Bauhaus that realigned in new technologies and media inherent in the interfaces and game design, to work out new analytical approaches to transforming mediareality, where the idea of new design forms and codes is gaining importance. The paper aims to explore the influence of the principles of the Bauhaus movement on the interface design of both game and non-game projects. Among the examples were examined some computer games inspired directly by the work of the Bauhaus representatives, as well as projects that are influenced by a leading school of minimalism only indirectly. The study of the stylistics of game interfaces as part of the overall process of transforming design approaches can be a promising direction and can develop into a serious detailed study of the design of graphic interfaces inspired by the Bauhaus aesthetics.

Keywords

Bauhaus Effect; Interface Culture; Design Code; Computer Games; Graphic Interfaces; User Environments; Minimalism Aesthetics; Visual Language; Aesthetic-Technical Production



This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/)



БАУХАУС-ЭФФЕКТ. ОТ УТОПИИ ДИЗАЙНА К ИНТЕРФЕЙС-КУЛЬТУРЕ

Колесникова Дарья Алексеевна (а)

(а) ФГБОУ ВО «Санкт-Петербургский государственный университет». 199034, Российская Федерация, Санкт-Петербург, Университетская набережная, 7/9.

Email: Daria.ko[at]gmail.com

Аннотация

Школа дизайна Баухаус предоставила возможности для создания эстетически-технической практики, целью которой было восстановить единство ремесленного, технического и художественного производства, утраченного в результате индустриализации. В настоящее время существует необходимость пересмотреть концепции школы Баухауса, которые легли в основу современных технологий и медиа, присущие интерфейсам и игровому дизайну, разработать аналитические подходы к трансформации медиареальности, где идея новых форм и кодов дизайна приобретает все большее значение. Целью статьи является изучение влияния принципов движения Баухауз на дизайн интерфейсов как игровых, так и неигровых проектов. Среди примеров были рассмотрены некоторые компьютерные игры, вдохновленные непосредственно работой представителей школы Баухаус, а также проекты, на которые лидирующая школа минимализма оказала влияние только косвенно. Изучение стилистики игровых интерфейсов как части общего процесса преобразования подходов к дизайну может быть многообещающим направлением и может перерасти в серьезное детальное изучение дизайна графических интерфейсов, вдохновленное эстетикой Баухаус.

Ключевые слова

Эффект Баухаус; культура интерфейса; компьютерные игры; графические интерфейсы; пользовательские среды; эстетика минимализма; визуальный язык; эстетико-техническое производство



Это произведение доступно по [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/)



INTRODUCTION

Bauhaus was founded in Weimar by 1919 by Walter Gropius as an art school. Its mission was to develop innovative ways of living for a more humane society, to design functional and affordable products in a formal language of great clarity.

The Bauhaus was a trailblazer, representing the modernism movement that gained international acclaim. The actual Bauhaus inheritance is a particular idea or mindset that can be found all over the world: in Tel Aviv, Cape Town, Palo Alto, or Shenzhen. Today it is considered to be the most influential German cultural export of the 20th century.

The Bauhaus was an idea to rebuild the world through the collective effort of all the separate disciplines by working together on the art and science of living. It was called, literally, the building house.

The Bauhaus has become known and effective above all as the nucleus of what is now called ‘design’. Today, the name ‘Bauhaus’ has a broader significance than simply symbolising the idea of design as such: in popular reception it expressly signals exemplary notions of modernity and even became a regulative idea in the digital age.

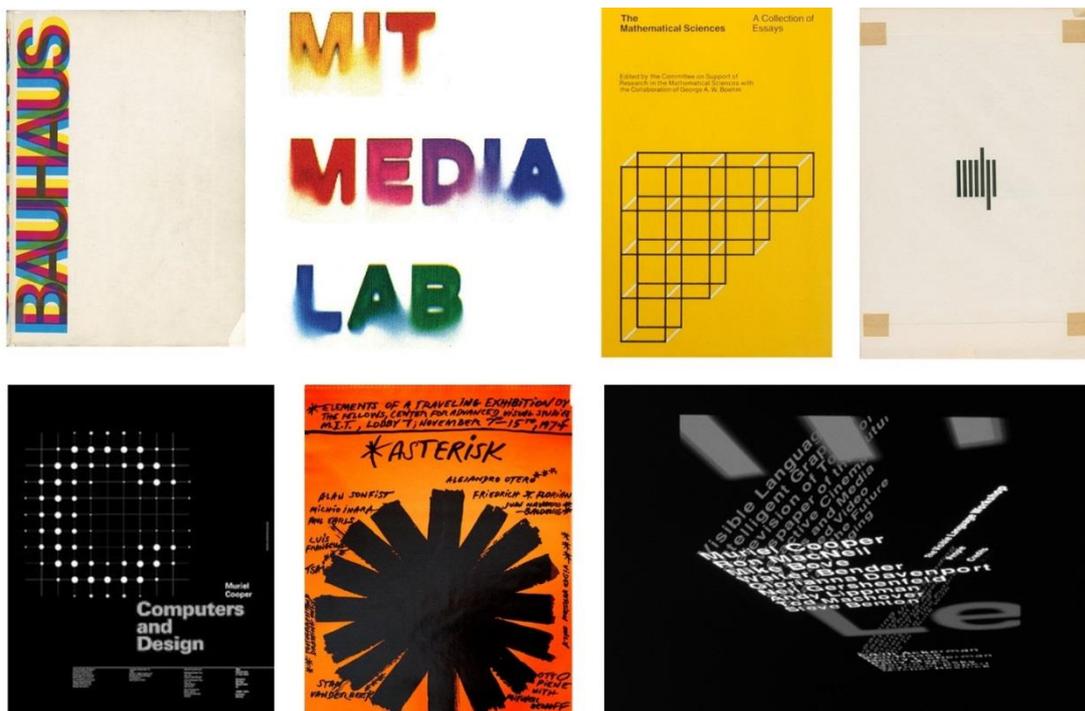
The significant legacies of the Bauhaus for interface culture are its ideals and principles. If we go back to the ideas, we could find the principles of collectivity, of radical experimentation and probing into materials, the manifest for creating an aesthetic-technical production orientation that recontextualizes technology as skilled practice, which sought to restore the old unity of craft, technical and artistic production; and of a set of responsibilities to other people, to techniques and to the materials.

VISUAL LANGUAGE FROM TYPOGRAPHY TO INTERFACE

Bauhaus remains the 20th century’s most influential school of art, architecture and design, even though it existed only for 14 years. For its last two years before its eventual closing by the Nazis it resided in Berlin. During the years of World War II, many of the key figures of the Bauhaus emigrated to the United States: Walter Gropius went to Harvard, Marcel Breuer and Josef Albers taught at Yale and Moholy-Nagy established the New Bauhaus in Chicago in 1937, where their work and their teaching philosophies influenced generations of young architects and designers. Among them is situated “the design heroine you’ve probably never heard of”(Rawsthorn, 2007), the pioneering designer Muriel Cooper, whose work spanned media from printed book to software interface.



Muriel Cooper (1925–1994) — was a book designer, digital designer, researcher, and educator. For Muriel Cooper, who graduated from the Massachusetts College of Art in 1951, the Bauhaus idea remained very vibrant. As she later recalled, “The people and works of the Bauhaus were my conceptual and spiritual ancestors, so I felt a particular bond with the material” (Heller, 1989, p. 97). In her first design job in Boston, Cooper freelanced briefly at the Institute of Contemporary Art (ICA), which is likely where she first interacted with the Hungarian emigré and former colleague of Moholy-Nagy, György Kepes. Kepes had been teaching visual design in the Department of Architecture at MIT, and designed the exhibition and publicity for an ICA retrospective of his friend Walter Gropius in 1952, the same year he retired as Chair of the Department of Architecture in Harvard’s Graduate School of Design. Kepes recommended Cooper for the role of in-house designer at MIT’s new Office of Publications, where she began that year (Wiesenberger, 2017).



**Pic.1 The reference iconic designs from Cooper’s four-decade career at MIT.
Source: pentagram.com**

By the mid-60s she was the first Design Director at the MIT Press, where she rationalized their production system and designed a modernist monument, the encyclopedic volume *The Bauhaus* (1969). The Bauhaus project dominated her work for nearly two years, to enlarge, revise, and completely redesign an American version of an earlier German edition. She



set the book in the newly-available Helvetica typeface and used a grid system page layout, giving the book a strong modernist appearance (O'Neill-Butler, 2014). Cooper also made a film rendition of the book, which attempted to give an accelerated depiction of translating interactive experiences from a computer to paper. This endeavor was her response to the challenge of turning time into space (Mai, 2014).

Muriel Cooper challenged the limitations of contemporary communication. She used an offset press as an artistic tool, worked with a large-format Polaroid camera, and had an early vision of e-books. She conceptually (and literally) transformed conventional principles of design into new strategies for visualizing information:

Integrating word and image on screen (“Typography”), in a way that filtered and communicated information based on the reader/user’s interest, was her goal. The computer screen offered more depth, and information environments — real or simulated — offered more possibilities for orientation within this space. It was crucial to her that information be usable. She saw the designer’s job as creating dynamic environments through which information would stream, rather than designing unique and static objects (Wiesenberger, 2017).

Cooper was influential in introducing computers to MIT Press design; in 1967, she audited (Wiesenberger, 2018) MIT professor Nicholas Negroponte’s course on “Computers and Design”, which increased her growing fascination with developing digital technology (Mai, 2014).

In 1974 with designer Ron MacNeil she founded the MIT Visual Language Workshop. Cooper taught there an interactive media design (Abrams, 2015). She was recognized as a pioneer in designing and changing the landscape of electronic communication (Rawsthorn, 2007). Although she never learned to program computers, she could see the design possibilities opened up by the technology, and worked closely with programmers and engineers to experiment with new concepts in the presentation of complex information. In 1976, her students literally broke down the wall between design and production of media, experimenting with a wide variety of new computing, electronics, and printing technologies.

In 1985 the Visible Language Workshop, the MIT Architecture Machine Group, and the Center for Advanced Visual Studies (CAVS) were combined to form the MIT Media Lab. There Cooper joined its new director Nicholas Negroponte and became a founding member of the MIT



Media Lab, whose aim was to explore the human-computer interface. As Cooper liked to describe it: “The Media Lab is a pioneering interdisciplinary center that is a response to the information revolution, much as the Bauhaus was a response to the industrial revolution.” (Cooper, 1989, p. 18.) The analogy is audacious and illuminating: both institutions, with sponsorship from industry, shared a techno-utopian and purportedly humanist vision, and an experimental, interdisciplinary approach to reforming aesthetics in everyday life.

In 1994, at the TED 5 conference in Monterey, California, Cooper presented a collection of work that had been recently done by her students in the VLW. The demos demonstrated experiments in dynamic, interactive, computer-based typography, themes which Cooper had been exploring through much of her career. In 1978, had Cooper co-authored a ‘Books without Pages’ proposal to the National Science Foundation to explore computer typography and computer workstations.

Muriel Cooper began her four-decade career at MIT by designing vibrant printed flyers for the Office of Publications; her final projects were digital. If you “take all the strands that define contemporary media, technology, and design, and follow them back in time to their source,” suggests Pentagram’s Michael Bierut, “to your astonishment, you will find all the strands converge in a single person: Muriel Cooper. If today’s ever-expanding information universe began with one big bang, she was squarely at the center of it.” (Bierut, 2017)

Muriel Cooper designed a bridge between the Bauhaus and the Digital Age by predicting so much of our connection to interfaces and the need for them to be intuitive and anticipatory.

MEDIA AS INTERFACES FOR THE BAUHAUS WAY OF THINKING

From the beginning, it was clear that Bauhaus stood for creating beauty through purposeful utilitarian design, uncompromised by mass production. It was about simplicity and usefulness. It avoided the trappings of decoration and it felt that any media could be an interface¹ for the Bauhaus way of thinking.

Bauhaus considers the combination of design and functionality, of art and technology as a new entity. The legacy of this idea comes across with

¹ The terms *interface* is used here close to Alexander Galloway’s definition. Interfaces are not simply objects or boundary points. They are autonomous zones of activity. Interfaces are not things, but rather processes that effect a result of whatever kind. Interfaces themselves are effects, in that they bring about transformations in material states. But at the same time interfaces are themselves the effects of other things, and thus tell the story of the larger forces that engender them (Galloway, 2012).



rounded corners and touchscreens. If we want to discover the link between the Bauhaus and the iPhone interface, we should have a look at post-war German design school in Ulm. The Ulm School of Design was founded in 1953 by the graphic designer Otl Aicher, the Inge Aicher-Scholl and the Swiss architect, designer and Bauhaus graduate Max Bill. Though the Ulm school only lasted 15 years, it struck up a working relationship with Dieter Rams' design department at Braun, assisting the German electronics and consumer goods manufacturer in coming up with its minimal designs (Lovell, 2013). Steve Jobs and Jony Ive famously admired the work of Braun designer Dieter Rams. And that admiration can often be found seeping into Apple's own products and iPhone interfaces. The Apple interface provides a graphic user interface to allow users to see their computer in action, at the cost of being increasingly distanced from its actual operation. Users had less ability to modify their computer's running code because the interface guards the running code from the user. Users had far less capacity to program their machines, since most of the configuration elements lay outside of their view on screen. Users enjoy the platform's design and ease of use, but lack access to the most of the underlying code (Turkle, 1997).

Our presence confronts us with a new type of technology that shifts our relationship with the art and the objects that we use every day in an unusual way: smart technologies will not be operated for longer, as we are used to. Rather, they develop their own 'senses' in order to already have done, ordered or switched on what we only know at that moment that we want or need it. Where direct input has not become completely redundant, we communicate with devices via intuitively designed surfaces. The processes inside have no purpose and have become invisible to us. Invisibility is one of the basic tensions of contemporary interfaces. They are designed as "essential environments", where the functionality of media is covered under digital surfaces and mediality is camouflaged. "Interface aspires to exit its boundaries as technical device" (Latypova, Lenkevich, 2016).

Computer games encourage us to discover interfaces, to connect new extensions and build the brave new world, drawing inspiration from Bauhaus visionaries.

In doing so, an architect Joseph Grima and the *Space Caviar* project team follow the ghost of Walter Gropius through the limitless universe of *Minecraft* (2011) in the digital docudrama *Blockchain* (2015).

The film follows the ghost of Walter Gropius on an extended *dérive* through ten of the game's worlds, shadowing him as he ponders the social and political fundamentals of creativity. Fragments of conversations with



the creators of maps and servers, memories from the past, observations, speculations and conjectures of one of the 20th century's great utopians intersect with a transnational digital universe in which learning, labor and play are all mediated by the basic shape of the block.

Drifting in childlike wonder through the imaginary landscapes of a culture whose transition from the industrial to the digital is complete, W_Gropius becomes a pioneer of uncharted spatial dimensions – intangible meta-mechanics, utopian city plans, robotic prototypes, dream-like realities – tracing, as he progresses, the art of construction from the physical to the cybernetic.



Pic.1 Still from *Blockchain* movie by 'Space Caviar' (Joseph Grima, Martina Muzi), 2015

The Bauhaus always wanted to use industry for a greater social purpose, a higher goal. As a teacher at the Bauhaus and a freelance architect in Berlin, Walter Gropius was obsessed with the idea of a “house factory” within a *modular technique*¹ in construction. The

¹ The theory of Modular Design, which allowed the system to be subdivided in smaller modules which then can be replicated and mass produced resonated with the initial Bauhaus principles of “Form follows function”. The principle of modularity is also fundamental for interface design and enables a particular form of programmability. Modularity at the interface helps because it divides code into discrete functions that are easily signified. Simply put, modules break complex code down into digestible bites. The cut-up technique (Burroughs and Gysin, 1978) provides a better description of modular programmability. William S. Burroughs popularised the technique of cutting up texts into short sentences or words and then re-assembling these cut-ups into new works (Hansen, 2001). Modules are like cut-ups – snippets of code assembled together by the author. Katherine Hayles notices a similar pattern in her description of new



Weissenhofsiedlung in Stuttgart and the Dessau settlement Törten were his experimental fields. The first large-scale prefabricated housing program in East Germany was developed by Bauhaus architects (among them Hans Mayer, Konrad Püschel, Philipp Tolziner) who had fled Nazi Germany in 1933 to the USSR. When the mood shifted to the modern age – “better, cheaper, faster” was their slogan – they came back. Since 1950th East Germany became the laboratory for their experiments, for example a famous WBS70¹ series of dwelling that was built in the using slab construction.

In the German language, there is a special word for building constructed of large, prefabricated concrete slabs and it's called: *Plattenbau*. The word is a compound of *Platte* (in this context: panel) and *Bau* (building).

Plattenbau blocks that make Berlin look like a grey Tetris game underlies the video project *Berlin Block Tetris* (2015) by the Berlin media artist Sergej Hein. The short clip was created with the help of Adobe's After Effects for a project at the university. The project uses the typical structure of the block houses in GDR and turns them into *Tetris* (1984) game modules.

Sergej Hein came up with the idea for his *Berlin Block Tetris* animation as he walked through the streets of East Berlin and realized that the square blocks of prefabricated concrete buildings looked like Tetris pieces. Hein grew up in Riga, but moved to East Berlin and lived in what he called a “ghetto” of prefabricated buildings. In his own words:

The idea is based on a kind of parody of the former Socialist building style. They used to build whole cities where each house was designed identically to create cheap housing for workers. These ‘blocks’ were so similar that in Soviet times, you could easily wake up at a friends place in another city and still feel like you are in your flat. [...] I think Alexei Paschitnow, the inventor of Tetris, had kind of the same Idea as me in spring 1984. I bet he was looking out of the window of his Block in Moscow and thought how do soviet architects actually plan this buildings? (Walter, 2016).

media. “Fragmentation and recombination,” she mentions, “are intrinsic to the medium” (Hayles, 2004, p. 76).

¹ WBS 70 (Wohnungsbauserie 70th series) is a type of dwelling that was built in the German Democratic Republic using slab construction. It was developed in the early 1970s by the German Academy of Architecture and the Technical University of Dresden. Of the approximately 1.52 million dwellings constructed in slab construction to 1990, the Type 70 WBS is widespread, accounting for up to 42 percent of housing constructed in the East.



Pic.2 Still from the video project *Berlin Block Tetris* (2015) by Sergei Hein.

Among the art games there are projects that carry critical potential in relation to the games themselves or to the surrounding reality. The critique of social reality was realized within the conception of *newsgames* (with their main project's catalog on gamesforchange.org). It seems that the ideals shared by the authors of *newsgames* did not come true and the aspiration to make games for changing reality in general failed (Muzhdaba, 2016). However, in spite of the end of “*newsgames project*”, there are still games trying to reflect on social reality, highlight socio-political issues, historical and popular science projects.

One of the examples of playful approach to capture changing European cityscape and to create a more engaging interaction with the topic *Plattenbau* architecture is the *Tower Block* (2018) game by interaction



designer Lukas Valiauga. Playing on a visual metaphor of tower blocks being actual blocks in a Tetris-style game invites the player to take a different and a more playful look into the architectural phenomena that still surrounds and create your own tiny city of Plattenbau buildings. Whether you want to create a harmonious and balanced landscape, sow chaos or try impossible combinations you can do it in your own digital realm. Developing project further goal is to expand narrative and showcase particular style, era but also social problems defining examples of architecture. Some are still around us and some are already demolished and replaced by luxurious new condos (Artiaga, 2018).

The *Plattenbau* buildings of GDR time are not exactly conventionally beautiful, but they are so characteristic, they symbolize urban life, concrete architecture and a bit of nostalgia. Nowadays some people would experience residential areas with blockhouses as alienating. But others still love their aesthetics, the radical extraction of an idea and every physical form. *Plattenbau* sees itself as a tribute to the spatial concept of the young Bauhaus, as represented by the de Stijl movement, as well as a universal means of visualization, learning and teaching, which serves the understanding and communication of complex contexts.

From the beginning, the Bauhaus has been interested in the media. Not only for newspapers, photography and radio, but also for the basic fact of mediality.

Following the overall concept of *synesthesia*, the bauhaus artists address different aspects of the interfaces design: the color-coded scores for multi-sensory performances by the artist-engineer Molohy Nagy, the color-sound theory of the synesthet Kandinsky, and the holistic ‘harmonization theory’ by Gertrud Grunow. Paul Klee thematized the ‘air layer’ the ‘between me and you’ and saw ‘the pictorial thinking’ as a mediator between earth and world.

The discourse of media science has evolved independently of such experiments. Nevertheless, traces of a reference to the Bauhaus can be found time and again with Walter Benjamin and Marshall McLuhan, with Gilles Deleuze and Félix Guattari as well as with Friedrich Kittler.

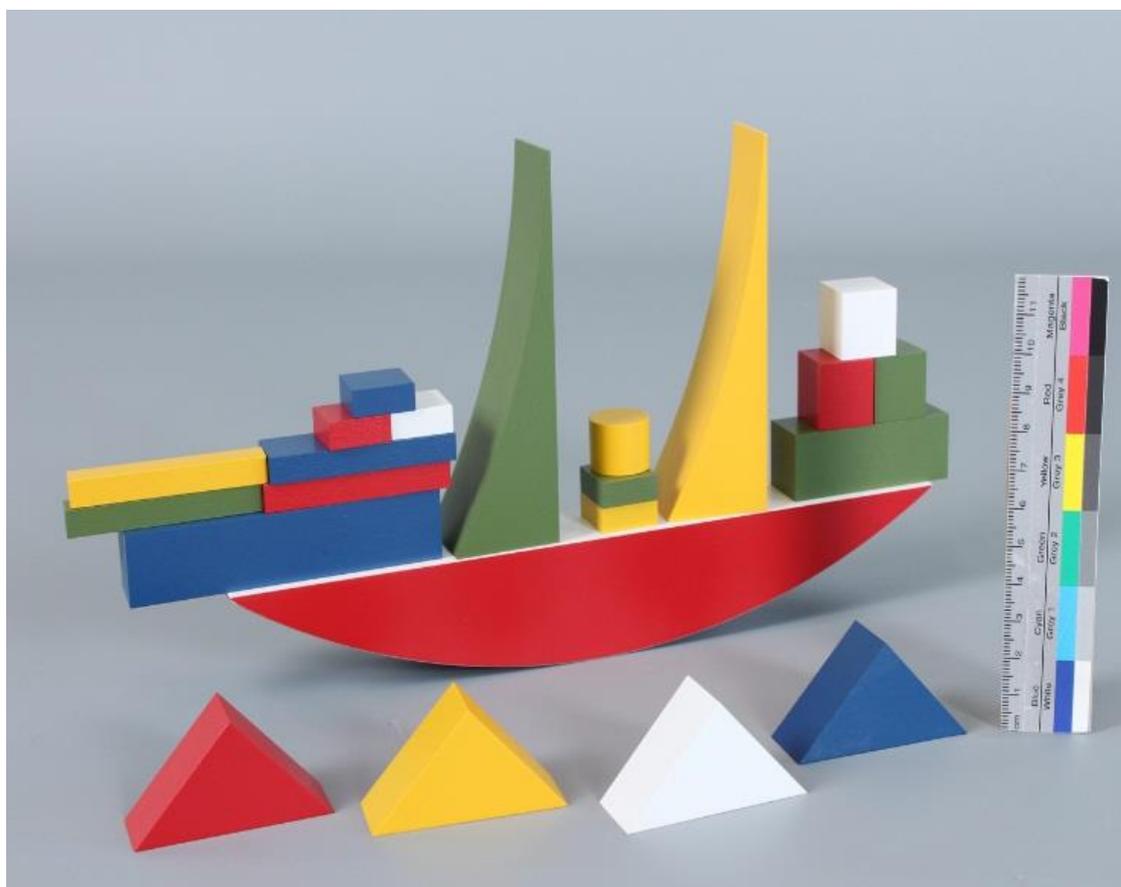
To follow these traces is to explore the media practices that settled in the Bauhaus in the open space between craft, material and aisthesis, but at the same time also to understand better how media science can be stimulated and questioned by this space today.



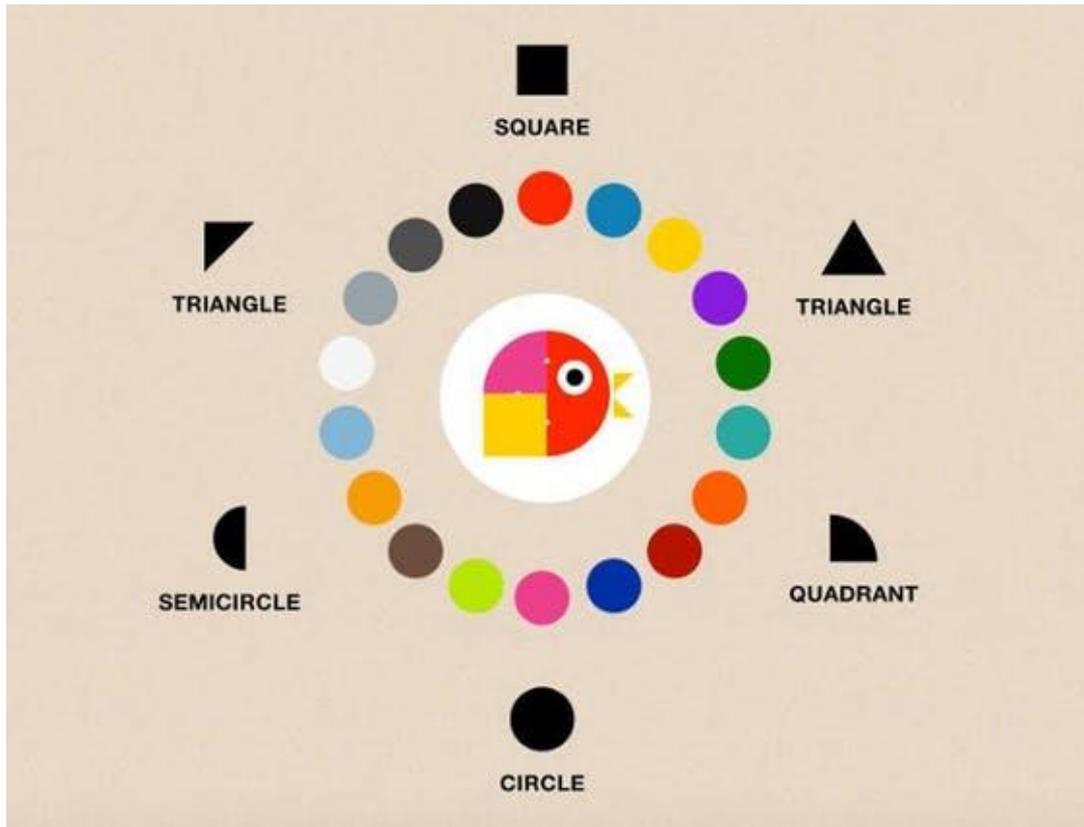
SOME LESSONS THE BAUHAUS SCHOOL CAN OFFER TODAY'S INTERFACE DESIGNERS:

1. Back to basics

For the Bauhaus, the lynchpin of the whole design effort was simplicity. “Less is more”, Bauhaus architect Ludwig Mies van der Rohe was known to say. This principle extended beyond just the simplicity of form — those clean, geometric shapes and sleek surfaces should encompass the function. The idea that our visual perception can be enhanced through correct relationships of shapes and colour is fundamental to visual design. Legible and intuitive interfaces will inevitably help the user to complete the desired action with greater efficiency than ornate embellishments (O’Donoghue, 2015).



Pic. 3 *The Little Shipbuilder* game kit (1923) by Alma Sidhoff-Buscher



Pic.4 The iPad app *ShapeKit* (2015) by c+y

The use of the basic colors Red, Yellow and Blue and the geometric shapes Square, Triangle and Circle originate in the Bauhaus in the classes of Vasily Kandinsky “On the basic elements of forms”. The principles of simplicity in geometry, the honoring of basic shapes and colors, versatility and consistency formed the basis of the Bauhaus code.

The Little Shipbuilder game kit was developed by Alma Sidhoff-Buscher, a student at the Bauhaus school in 1923. Twenty two wooden blocks of the basic geometric shapes are decorated in the Bauhaus colors of red, yellow and blue, complemented by green and white. The game is still popular constructor kit in Germany.

The iPad app *ShapeKit* (2015) made by design team c+y, draws inspiration from bauhaus design and stop-motion animation to make learning shapes and colors fun. ShapeKit’s look and bright color palette came from Paul Klee and Ladislav Sutnar, both of whom strongly influenced Bauhaus aesthetics.

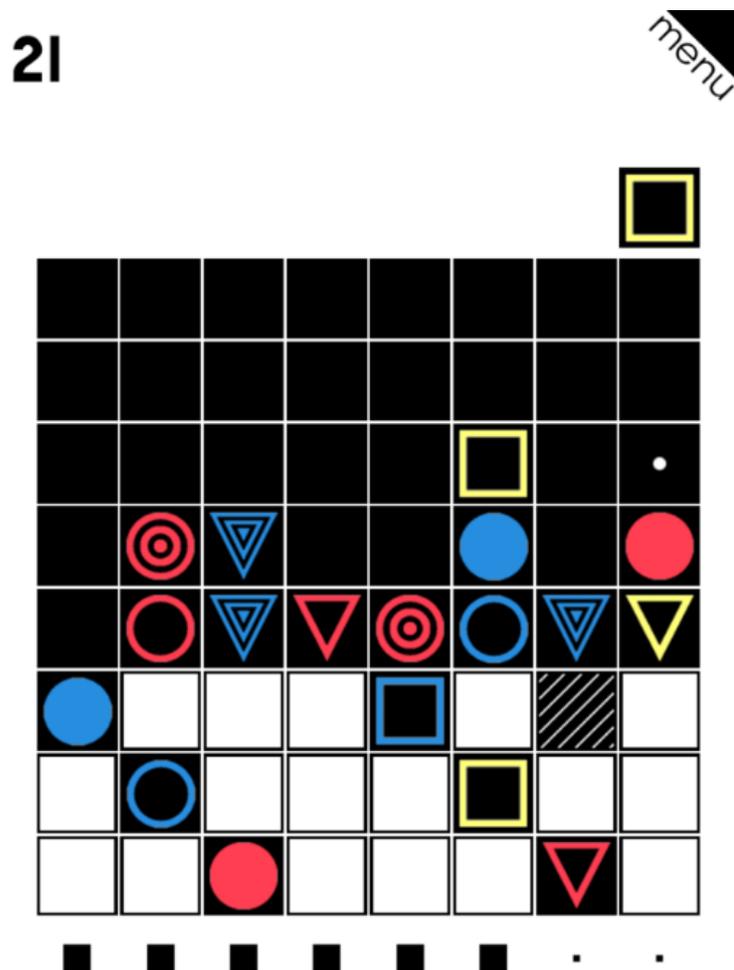
Design trimmed to its basics — works, and the success of many games proves that minimalism goes well with most traditional game design practices. When talking about the history of minimalism in games, it’s very important to understand the difference between limitation and intention. By



today's standards, *Pong* is a minimalist exercise in art, input, sound, and mechanics. But this was not entirely by design; it was mainly due to hardware limitations (Bone, 2015).

The rise in popularity of iOS and Android devices also saw a rise in gaming minimalism¹. Touch-screen inputs and the nature of mobile gaming creates an environment where quick, simple games get the most attention.

Michelle McBride-Carpentier's iOS game *Bauhaus Break* (2012) in the genre of drop & match, created under the influence of *Set*² and *Drop7* (2007) and the constructivist style, mixes the emphasis on the aesthetic sensitivity of the graphical interface.



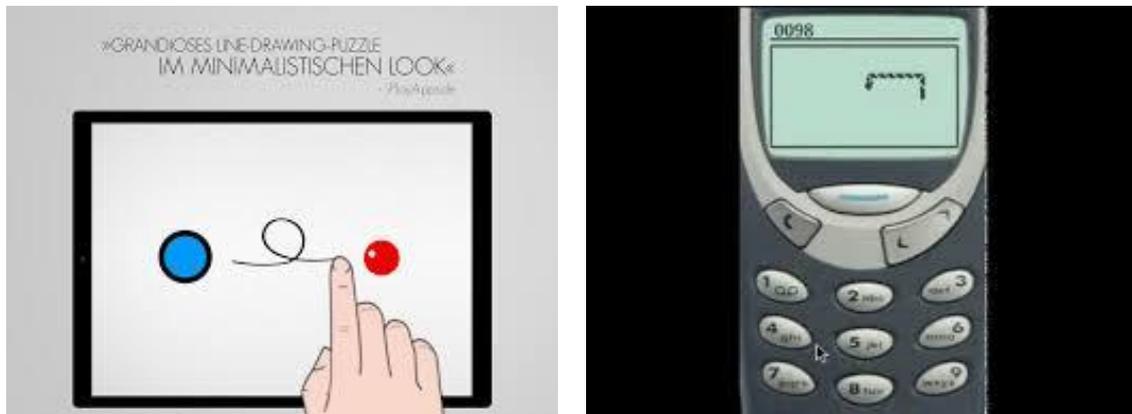
Pic.3 IOS game *Bauhaus Break* (2012) by Michelle McBride-Carpentier's

¹ Minimalism in games reveals on the different levels: rules, mechanics, controls, interface (Nealen et al., 2011); visual design is supplied by game design, functional principles of minimalism embody in game actions.

² The game of *Set* was invented by German population geneticist Marsha Jean Falco in 1974. As a real-time card game *Set* was published by Set Enterprises in 1991.



Blek (2013) is the arcade puzzle game for iOS and Android by *Kunabi Brother*. The game is minimalistic in design with references to the *Bauhaus* and Japanese calligraphy. The brothers developed the game as a touch screen adaptation to the legendary *Snake*¹.



Pic.6 *Blek* (2013) arcade puzzle game by Kunabi Brother and *Snake* (1997) by Taneli Armanto on Nokia.

2. Form follows function

What began as a German art school in Weimar grew to be a principle which placed design and function in equilibrium. The “form follows function” ideal, which is still popular today, was propagated by Bauhaus founder Walter Gropius. Crucially this philosophy was encouraged by mass production and not restricted by it. It saw mass production as something that could still incorporate craft. It was about simplicity and usefulness. Gropius drew on influences as disparate as Russian Constructivism and even English Arts and Crafts exponent William Morris who had already been talking about the importance of utility in the 19th century.

These core values remain as relevant today as ever for anyone working in graphics and branding, product design, and even those working in digital fields designing an app or computer games. This principle invariably works in majority of computer games, as game developers try to make both the interfaces and objects of the game world intuitive affordable, that means: what is presented should clearly let the player understand what

¹ Among a variety of the games referring to the *Snake*, one of the most remarkable is *Snakism* (2017) designed by Pippin Bar. The game ironically represents styles of thinking or philosophical conceptions through variations of the basic *Snake* mechanic. For instance, in the regime “ascetism” the game ends, when snake eats the first block; in the regime “idealism” after the launch a phrase appears on the screen: “Imagine you are playing a game of snake”; in the regime “romantism” a romantic music is playing and each time snake eats the block player sees the stylized phrase of the silent film, etc. — *Editor’s note*.



it is, why is it here and how it works. In fact, this is how game conventions of management objects are designed. For example, affordances in games are such functional objects.

3. The principle of radical experimentation

The Bauhaus School's learning culture encouraged experimentation at a fundamental level. They stand to remind that rules and conventions are there to be learned, but not always to be observed. Some design problems call for radical solutions. The Bauhaus wanted to change society, to form a modern type of human being and a modern environment for that human being. It was oriented forwards and wanted to create nothing less than the future.

[..]In a sense, the Bauhaus represents the 20th century — it defined our whole idea of what it is to be modern. What a radical idea it was for a school: this relationship between art and design, architecture, between furniture, graphics, painting, sculpture. Bauhaus tried to bring them all together and, in a true modernist sense, create a utopia. It's interesting that many of the things they designed were very difficult for them to actually produce. So much of what they did really only became available to people in the 50s and 60s when the techniques for fabrication made it possible — they were so ahead of their time that although these things were meant to be mass-produced, they were unable to at the time (Craig-Martin, 2019).

The construction of indie artgames represents the specific principle of radical experimentation. Such games suggest not only playing but thinking about important things for every human (life, death, friendship, memory, etc.). For instance, *Passage (2017)* plunges gamer not in the bright world of the newest “realistic” graphics, but in 2D pixel world with extremely scan functionality: the only action is going forward. The game represents a metaphor of life passage. Art games do not follow the expectations of players, they break them to build new senses. Experimentation is a crucial component for artgames in their claim to artistic legitimacy.

A growing number of indie games shares the oppositional, punk-like DIY ethos of queer games, and is framed as a hip, anarchic social happening (in the vein of Fluxus) with games as a catalyst, and so they are open form of game-based art (Stein, 2013)

The highly stylized, often lo-fi, pixelated, or deliberately “retro” aesthetics of indie games, and their relatively brief duration, simplify the production process and allow for smaller teams, making it easier to map the



intent behind a game onto a single author compared to big AAA productions, and thus to understand it as an intentional artistic object (Bogost, 2016).

4. The principles of interaction and ‘Gesamtkunstwerk’

Another principle of the Bauhaus was the crystallisation of an earlier ethos: the *Gezamkunstwerk*, literally the ‘total work of art’, in which art, design, music and architecture combined to create the perfect, total environment. Bauhaus core objective was a radical concept: to reimagine the material world to reflect the unity of all the arts.

Bauhaus teachings were concerned with giving practical and craft skills such as interior design, architecture, textiles and woodwork the same sort of status as fine art. It also saw technology as a great enabler. Design and colour theory, materials and process were part of the core curriculum and a starting point for students. The Bauhaus design principles were easily applied to any type of design within the school, often in unison, in the name of ‘total’ art or design. Gropius explained this vision for a union of crafts, art and technology in the *Programm des Staatlichen Bauhauses Weimar* (1919), which described a utopian craft guild combining architecture, sculpture, and painting into a single creative expression (Griffith Winton, 2000).

Gesamtkunstwerk is a project of the union of arts, in which the synthetic experience of the whole exceeds the sum of the impact of the means of artistic expression included in it and claims to be not only aesthetic (experience of form / experience of the limit), but mystical (experience of the beyond). As a continuation of the mysterious ritual by other technological means, *Gesamtkunstwerk* functions as a machine of symbolic codification of death, which makes it possible to turn its destructive potential into a constructive one. Computer games are the *Gesamtkunstwerk* of the modernity, because they transfer the experience of alienation, reification, emotional exhaustion, which is scattered in our culture, from destructive to constructive. If other media store and transmit information, represent events, create values, then games have the ability to generate pre-predictive experience – a sense of presence. Since the traumatic, appealing to pre-discursive forms of attitude to the world in the digital environment becomes stronger, more attractive, more effective than the discursive one, computer game analytics can detect ways of being present in digital reality that determine various behavioral models and can be taken into account in the field of digital economy, digital law, everyday digital life, in the practice and pragmatics of digital communication (Ocheretyany, 2019).



Games are not only equal in status and value to other art forms, but in fact represent the union and apotheosis of all art – the principle of *gesamtkunstwerk*. Among the art forms subsumed into games are visual art, sculpture, film, music, and literature (Burch) and environments – with the added feature of interactivity to complete the “perfect union” (Crislip).

In the game, the player manages to gather as a whole, to acquire the image of bodily presence and social role, which is why the phenomenon of computer games is so significant for the modern world, which bring a completely new experience of sensuality and orientation in the world. If traditional games are contrasted with narrative genres as non-verbal genres versus verbal ones, and this relation is compared with the relation of ritual and myth, then in computer games the narrative element becomes a constructive component of the game world, and at the same time the game affects the story being told (Shevtsov, 2019).

A significant impulse of the Bauhaus movement was curiosity, which found expression through the embodiment of experience and ideas in new forms of interaction (including gaming) with space and objects, which modern media culture expresses through the interaction of the developer, user, player and interface in the synthesis of art and technology.

FINAL CONSIDERATIONS

The following article is aimed at exemplifying some evidence of relationships between the Bauhaus movement and the nowadays principles in interface and graphic design. Among the examples were shown some of personalities and projects inspired directly by the work of the Bauhaus representatives, as well as that one, which are influenced by design school only indirectly.

By focusing on Bauhaus design principles was examined how those cultural and aesthetic values circulates in and through games and gaming culture. In line with the reform efforts of the Bauhaus, were questioned the principles and rules, reflecting on the socially changing potential of digital games and celebrating the creative power of the games as constructs and places of action.

Design for living with ubiquitous digital technologies needs to consider the experiential qualities that come into play in interactive environments. The exploration of experience of Bauhaus school in this context supplements the existing vocabulary used in interaction and game design.

The founders of Bauhaus understood aesthetics as a relevant factor in the development of individuals and in human coexistence. Aesthetics were



to become part of everyday life. And that is the bridge to the present day. In the era of digitalisation, we are occupied by new questions in regard to coexistence. Perhaps today, the principle that guided the Bauhaus school — *aesthetics should have become part of everyday life* — is also relevant in matters relating to coexistence and interaction with media objects.

Just like 100 years ago, however, Bauhaus today means questioning functionality and design and critically examining current design trends. Bauhaus is always also a pedagogy of making and touching, and Bauhaus — these are concrete artists with their own styles, their own theories and approaches.

References

- Abrams, J. (2015). *Muriel Cooper*. Retrieved from American Institute of Graphic Arts <https://aiga.org>
- Artiaga, A. (2018). *This game let's you play tetris with plattenbau blocks*. Retrieved from <https://www.iheartberlin.de/this-game-lets-you-play-tetris-with-plattenbau-blocks/>.
- Bierut, M. (2017). *Muriel Cooper: Designing a Bridge Between the Bauhaus & the Digital Age*. Retrieved from <https://99percentinvisible.org/article/muriel-cooper-designing-bridge-bauhaus-digital-age/>
- Bogost, I. (2015). *How to Talk about Videogames*. University of Minnesota Press.
- Bone, S. (2015). *Minimalism in Game Design: Examples, Tips, and Ideas*. Retrieved from <https://gamedevelopment.tutsplus.com/articles/minimalism-in-game-design-examples-tips-and-ideas--cms-23446>
- Burroughs, W. & Gysin, B. (1978). *The Third Mind*. New York: Viking Press.
- Cooper, M. (1989). *Computers and Design*. Design Quarterly. Walker Art Center.
- Craig-Martin, M. (2019). *Bauhaus at 100: what it means to me by Norman Foster, Margaret Howell and others*. Retrieved from <https://www.theguardian.com/artanddesign/2019/jan/20/bauhaus-at-100-what-it-means-to-me-by-norman-foster-margaret-howell-and-others>
- Cramer, F. & Fuller, M. (2008). *Interface. Software studies: a lexicon*. London: The MIT Press.
- Droste, M. (2002). *Bauhaus, 1919–1933*. Berlin: Taschen.



- Galloway, A. (2012). *The Interface Effect*. Cambridge/Malden, Massachusetts: Polity.
- Winton, A. G. (2000). *The Bauhaus, 1919–1933*. Heilbrunn Timeline of Art History. New York: The Metropolitan Museum of Art, 2000. http://www.metmuseum.org/toah/hd/bauh/hd_bauh.htm
- Hansen, M. (2001). *Internal Resonance, or Three Steps Towards a Non-Viral Becoming*. Retrieved from <http://culturemachine.tees.ac.uk/Cmach/Backissues/j003/Articles/hansen.htm>
- Hayles, N. K. (2004). Print Is Flat, Code Is Deep: The Importance of Media-Specific Analysis. *Poetics Today*, 25(1), 67-89.
- Heller, S. (1989). Muriel Cooper (interview). *Graphic Design in America: A Visual Language History*, Walker Art Center, Minneapolis, 97.
- Johnson, S. (1997). *Interface Culture: How New Technology Transforms the Way We Create and Communicate*. San Francisco: HarperEdge.
- Latypova, A. & Lenkevich, A. (2016). Interface as a Complex Form of Sensibility. In *Visual Ecology: Formation of Discipline*. RHGA. Retrieved from http://mediaphilosophy.ru/library/books/Visual_ecology/VE_CH4_P24.pdf
- Lovell, S. (2013). *Dieter Rams. As Little Design As Possible*. Phaidon.
- Manovich, L. (2001). *The Language of New Media*. London: The MIT Press.
- Muzhdaba, A. (2016). Newsgames: either games, or news. In V.V. Savchuk (eds.) *Media Philosophy XII. Game or reality? Experience in the study of computer games* (pp. 315-328). St. Petersburg: Conflict Development Fund.
- Naylor, G. (1985). *The Bauhaus Reassessed*. New York: Dutton.
- Nealen, A., Saltsman, A. & Boxerman, E. (2011). Towards Minimalist Game Design. Proceedings of the 6th International Conference on Foundations of Digital Games, 38–45.
- O'Donoghue, J. (2015) *What Can UI Designers Learn from the Bauhaus*. Retrieved from <https://medium.com/ui-design-mag/what-can-ui-designers-learn-from-the-bauhaus-459fb7a7cf2d>
- O'Neill-Butler, L. (2014). *Muriel Cooper*. Arthur Ross Architecture Gallery, Columbia University.
- Ocheretyany, K. (2019). Computer games as the Gesamtkunstwerk of the digital age. *International Journal of Cultural Studies*, 1(34), 34-45.
- Rawsthorn, A. (2007). Muriel Cooper: The unsung heroine of on-screen style. *New York Times*. Retrieved from



- https://www.nytimes.com/2007/09/28/style/28iht-design1.1.7670693.html?_r=0
- Shevtsov, K. (2019). The boundaries of the game. *International Journal of Cultural Studies*, 1(34), 6-19.
- Stein, A. (2013) Indie Sports Games: Performance and Performativity. *Simon, B. (Ed.), Loading...*, 7 (11).
- Turkle, S. (1997) *Life on the Screen: Identity in the Age of the Internet*. New York: Touchstone.
- Walter, A. (2016). *Berlin Block Tetris*. Retrieved from <https://architect.com/news/article/92921/berlin-block-tetris>
- Wiesenberger, R. (2017). Latter-day Bauhaus? Muriel Cooper and the Digital Imaginary. *Before Publication*. Nanni Baltzer (editor), Martino Stierli (editor). Published by Park Books, Zürich.
- Wiesenberger, R. (2018). *Print and Screen, Muriel Cooper at MIT* (Thesis). Columbia University.
- Wilk, Ch. (ed.). (2006). *Modernism: Designing a New World, 1914–1939*. Exhibition catalogue. London: V&A Publications.
-

Список литературы

- Abrams, J. (2015). *Muriel Cooper*. Retrieved from American Institute of Graphic Arts <https://aiga.org>
- Artiaga, A. (2018). *This game let's you play tetris with plattenbau blocks*. Retrieved from <https://www.iheartberlin.de/this-game-lets-you-play-tetris-with-plattenbau-blocks/>.
- Bierut, M. (2017). *Muriel Cooper: Designing a Bridge Between the Bauhaus & the Digital Age*. Retrieved from <https://99percentinvisible.org/article/muriel-cooper-designing-bridge-bauhaus-digital-age/>
- Bogost, I. (2015). *How to Talk about Videogames*. University of Minnesota Press.
- Bone, S. (2015). *Minimalism in Game Design: Examples, Tips, and Ideas*. Retrieved from <https://gamedevelopment.tutsplus.com/articles/minimalism-in-game-design-examples-tips-and-ideas--cms-23446>
- Burroughs, W. & Gysin, B. (1978). *The Third Mind*. New York: Viking Press.
- Cooper, M. (1989). *Computers and Design*. Design Quarterly. Walker Art Center.
- Craig-Martin, M. (2019). *Bauhaus at 100: what it means to me by Norman Foster, Margaret Howell and others*. Retrieved from



<https://www.theguardian.com/artanddesign/2019/jan/20/bauhaus-at-100-what-it-means-to-me-by-norman-foster-margaret-howell-and-others>

- Cramer, F. & Fuller, M. (2008). *Interface. Software studies: a lexicon*. London: The MIT Press.
- Droste, M. (2002). *Bauhaus, 1919–1933*. Berlin: Taschen.
- Galloway, A. (2012). *The Interface Effect*. Cambridge/Malden, Massachusetts: Polity.
- Winton, A. G. (2000). *The Bauhaus, 1919–1933*. Heilbrunn Timeline of Art History. New York: The Metropolitan Museum of Art, 2000. http://www.metmuseum.org/toah/hd/bauh/hd_bauh.htm
- Hansen, M. (2001). *Internal Resonance, or Three Steps Towards a Non-Viral Becoming*. Retrieved from <http://culturemachine.tees.ac.uk/Cmach/Backissues/j003/Articles/hansen.htm>
- Hayles, N. K. (2004). Print Is Flat, Code Is Deep: The Importance of Media-Specific Analysis. *Poetics Today*, 25(1), 67-89.
- Heller, S. (1989). Muriel Cooper (interview). *Graphic Design in America: A Visual Language History*, Walker Art Center, Minneapolis, 97.
- Johnson, S. (1997). *Interface Culture: How New Technology Transforms the Way We Create and Communicate*. San Francisco: HarperEdge.
- Latypova, A. & Lenkevich, A. (2016). Interface as a Complex Form of Sensibility. *Visual Ecology: Formation of Discipline*. RHGA. Retrieved from http://mediaphilosophy.ru/library/books/Visual_ecology/VE_CH4_P24.pdf
- Lovell, S. (2013). *Dieter Rams. As Little Design As Possible*. Phaidon.
- Manovich, L. (2001). *The Language of New Media*. London: The MIT Press.
- Muzhdaba, A. (2016). Newsgames: either games, or news. In V.V. Savchuk (eds.) *Media Philosophy XII. Game or reality? Experience in the study of computer games* (pp. 315-328). St. Petersburg: Conflict Development Fund.
- Naylor, G. (1985). *The Bauhaus Reassessed*. New York: Dutton.
- Nealen, A., Saltsman, A. & Boxerman, E. (2011). Towards Minimalist Game Design. *Proceedings of the 6th International Conference on Foundations of Digital Games*, 38–45.
- O'Donoghue, J. (2015) *What Can UI Designers Learn from the Bauhaus*. Retrieved from <https://medium.com/ui-design-mag/what-can-ui-designers-learn-from-the-bauhaus-459fb7a7cf2d>



- O'Neill-Butler, L. (2014). *Muriel Cooper*. Arthur Ross Architecture Gallery, Columbia University.
- Ocheretyany, K. (2019). Computer games as the Gesamtkunstwerk of the digital age. *International Journal of Cultural Studies*, 1(34), 34-45.
- Rawsthorn, A. (2007). Muriel Cooper: The unsung heroine of on-screen style. *New York Times*. Retrieved from https://www.nytimes.com/2007/09/28/style/28iht-design1.1.7670693.html?_r=0
- Shevtsov, K. (2019). The boundaries of the game. *International Journal of Cultural Studies*, 1(34), 6-19.
- Stein, A. (2013) Indie Sports Games: Performance and Performativity. *Simon, B. (Ed.), Loading... 7* (11).
- Turkle, S. (1997) *Life on the Screen: Identity in the Age of the Internet*. New York: Touchstone.
- Walter, A. (2016). *Berlin Block Tetris*. Retrieved from <https://archinect.com/news/article/92921/berlin-block-tetris>
- Wiesenberger, R. (2017). Latter-day Bauhaus? Muriel Cooper and the Digital Imaginary. *Before Publication*. Nanni Baltzer (editor), Martino Stierli (editor). Published by Park Books, Zürich.
- Wiesenberger, R. (2018). *Print and Screen, Muriel Cooper at MIT* (Thesis). Columbia University.
- Wilk, Ch. (ed.). (2006). *Modernism: Designing a New World, 1914–1939*. Exhibition catalogue. London: V&A Publications.