

Virtual Reality as a medium of abstraction. The “Stilleben” project.

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Abstract

The article is devoted to the presentation of the project carried out at the *Ubu Lab* at the Jagiellonian University in Krakow, Poland. The work titled *the Stilleben* is a minimalist, interactive experiment in the field of human-computer interaction as well as the translation of work done with classic graphic techniques into the virtual spaces.

Keywords

Virtual reality, art, abstraction, graphic design, HCI, minimalism.

Introduction

In the past few years, Virtual Reality (VR) has become an entirely recognized medium of art. Currently, the efforts of artists and experimenters are focused on the exploration of idiomatic expressive means characteristic for this technology. The subject of this article is the presentation of a concept related to the transfer of two-dimensional graphic expression to the 3D environment (exhibition in “real life”), and later into the space of an immersive interactive medium (VR experience). The critical problem that had to be solved when transferring a 2D graphical work into a virtual space was to preserve the original overtones of the work: focus on abstraction, minimizing the means of expression. Discussed work is supposed to be a counterbalance to currently popular, claptrap, blown-out multimedia presentations. Presented project - *the Stilleben* asks the question of the possibility of a minimalist, somewhat meditative experience in such a sensory, intemperate medium as VR.

The Stilleben

The Stilleben project is a collective work of Jakub Woynarowski and Jan K. Argasiński, the members of the group of polish researchers, artists and programmers affiliated with the *Ubu Laboratory* at the Jagiellonian University in Krakow, Poland who focus their investigations on creative computing and platform studies. They also study ways for curating, presentation and preservation of such works.

The key notion for many visual quests of Jakub Woynarowski – the author of *Stilleben*'s artistic concept – is abstraction, in its broad sense. He is interested in the images of objects that are taken to the level of abstract symbols, yet the degree of their figurativeness is determined by

ever-changing context. It is quite well exemplified by his project *Hikikomori* created in 2007, which was the main inspiration for *Stilleben*.

The word “hikikomori” (meaning “internal confinement” or “isolated entity”) is used to describe a condition widespread among young people in Japan. The state has a psychological-emotional origin and results in people isolating themselves from the world, not leaving their rooms, which they treat as fortresses, inaccessible even to their closest relatives. Woynarowski's graphic short story inspired by it, may be treated as a metaphorical record of subsequent stages of deterioration of the human mind. In 2015 he created three-dimensional adaptation of the story, presented during the *Think Tank Lab Triennial* in Wrocław. The labyrinthine narration of the exhibition, based on drawings, objects and projections, develops without any words or presence of living “heroes”.



Figure 1. *Hikikomori* 2012 installation in the Museum of Contemporary art in Krakow (MOCAK)

The author of *Hikikomori* attempts to create a sort of visual alphabet based on everyday objects that were devoid of reality. While searching for some stimulating analogies between them, their forms were “rounded off” to extract their abstractive potential out of the realistic, instructional drawings. Due to their excessive synthesis, quasi-objective technical illustrations became ambiguous and evolved into non-objective art. An illustrative example could be a print showing a black circle, which actually could be a depiction of anything – a shadow, a hole, or a liquid stain. In the structure of the whole elaborate visual essay these discrete elements

became letters that could be arranged in various configurations to freely make up various words.



Figure 2. J. Woynarowski, *Hikikomori*, album p.8

Jakub Woynarowski developed this language of semi-abstract signs in his experimental visual narratives, whose forms resemble visual essays, atlases or graphic novels. Usually he doesn't portray a human figure, focusing only on objects that belong to him. The leitmotif of these projects are the three basic geometric shapes: triangle, square and circle.

The continuation of *Hikikomori* was the *Vernalin* project (2011), focused on the relation between animate and inanimate matter. The project is inspired by Stanisław Lem's short story *Darkness and Mould* and also by scientific theories about vernalin - a hypothetical plant growth substance that, it has been suggested, is formed in meristematic regions of a plant subjected to cold.

In the post-human graphic novel, *The Dead Season* (2014), based on writings of Bruno Schulz, Woynarowski presented an utopian world, which, in the absence of humans, is ruled by objects, plants and little creatures. This uninhabited space, frozen in the 80's, reminds us of Pripyat, abandoned city in the zone of alienation, established after the Chernobyl disaster; the red color of plants (supplementing black & white drawings) is similar to the Red Forest, which turned ginger brown as a result of the radiation. The only inhabitants of this area – overgrown with plants (in which we can observe subtle physical abnormalities) – seem to be multiple insects, appearing in the garden, but also in the flat, accelerating the process of human world's deconstruction.

Stilleben is the next step on this path of development. It consists of two parallel yet interconnected visual stories. One of them is contained in the Augmented Reality (AR) art book, which could serve as “operating manual” of brand new visual language. The second version of the story is presented in the form of VR interactive installation, which can be seen as a form of exploratory game or non-linear visual poem.

Its idea was inspired by 17th century still life paintings (in German: “Stilleben”), depicting mostly inanimate subject matter, in which the state of 'death' reveals also to be a kind of 'silent life'. In fact, many of these compositions were allegorical visual essays, which could be compared with early modern cabinets of curiosities – encyclopedic collections of objects, regarded as memory theaters or microscopic reproductions of the world, which could be treated also as a prototypes of a contemporary art galleries. The word “cabinet” can be understood in two ways: as a room, a unique environment in which the various elements that make up the collection become integrated into an organic whole, or as an object, a piece of furniture, associated with Duchamp's *Green Box* or Breton's “poem-objects”. Some of these cabinets, enclosed in the form of fine furniture, bring modern computers to mind. A good example would be a piece of furniture commissioned in the 17th century by Philipp Hainhofer, which was equipped with all the functions found in a modern computer, such as a catalogue system, writing and music playing applications, or even a variety of games. This parallel could be taken to a further step – quite a few researchers have pointed to the similarities between contemporary internet blogs and curio cabinets.

This kind of multilayered storytelling is apparently founded on “cosmological” way of thinking, present also in two significant examples of early modern synthetic visual “hexamers”, which describe God's work on the six days of creation: Michael Wolgemut's Genesis sequence for *The Nuremberg Chronicle* and Matthaus Merian's illustrations for Robert Fludd's treatise *Utriusque cosmi... historia*. In both cases, we encounter a presentation of the Genesis creation myth in a form that could be described as a semi-abstract comic strip, a sequence of images circumscribed around the figure of a circle. The first drawing in Robert Fludd's cycle presents the original chaos and it is nothing but a black square, captioned with a formula “Et sic in infinitum” (And so on to infinity).

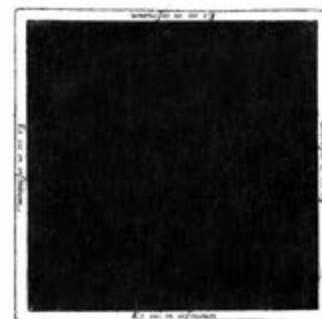


Figure 3. R. Fludd, *Utriusque cosmi... historia*, Oppenheim 1617

This print, created in 1617 is deceptively similar to Malevich's Black Square on White Ground. It's possible to compare these works with another examples of "cosmological" visual stories created in the 20th century (mostly based on architectonic metaphors), such as El Lissitzky's *A Suprematist Tale of Two Squares in Six Constructions*. According to Odile Belkeddar, the author of introductory note to Lissitzky's book: "Transformed into a visual object, the book is constructed as a building in which volume and movement are represented. As a designer of exhibitions, El Lissitzky would even use walls, floor and ceiling, like six faces of a cube". Very similar intuition was expressed by Paul Gravett, who described British narrative *PoCom-UK-001* as the interference between contemporary hyper comics and gallery comics: "The originators' ambition, still to be realised, is to extend PoCom around another three walls of the gallery and then connect panels with further stories across the floor and ceiling, and cutting diagonally across the gallery space, to burst out beyond this cube to create a blossoming organic nest of stories, achievable only in virtual space" (Gravett 2013, p.132).

Such transgressive strategies were also developed by American alternative comics' scene, especially in the circle of the *RAW* magazine, edited by Art Spiegelman – the author of such graphic novels as *Maus* and *In the Shadow of No Towers*. It's worth to compare two artists coming from this circle, focused on "paradigmatic" way of thinking and non-linear visual storytelling: Richard McGuire and Chris Ware. McGuire's *Here* and Ware's *Building Stories* are hypertext visual stories focused on the architectonical form of building as a starting point for narrative experiments. Another, similar example of "architectonical" and "cosmological" storytelling could be the "reduction" of Marcel Proust's *In Search of Lost Time* by François Ayroles, a member of OuBaPo (short for French: "Ouvroir de bande dessinée potentielle"; roughly translated: "workshop of potential comic book art"), French experimental comics movement (styled after literary movement OuLiPo) which uses formal constraints to push the boundaries of the medium. These seemingly unusual projects can be seen as a part of wider group of "stories without characters", represented by *The Cage* by Martin Vaughn-James, *SPUK* by Niklaus Rüegg and *Rumble Strip: If You Want to Get Away with Murder, Buy a Car* by Woodrow Phoenix.

The whole multilayered narrative of *Stilleben* refers to the tradition of visual "hexamers", depicting the stages of Genesis process. The gallery-like white cube space can be seen as a reference to The Cube of Space - an occult concept that was popularized by Paul Foster Case. It associates the three axes, the center point, the six sides and the twelve edges of the cube, with the 22 letters of the hebrew alphabet. The Cube of Space is based upon the verses of the proto-cabbala text called the Sepher Yetzirah, which describes directly the Genesis process. Similar concept was also introduced by Jay David Bolter in his book *Writing Space: Computers, Hypertext, and the Remediation of Print*, where the

alchemical and cabalistic codes are compared with contemporary digital interfaces.

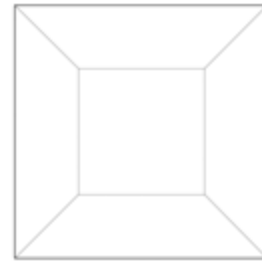


Figure 4. *Stilleben* VR application: the initial state.

This kind of procedure could also describe very well the way how the user of *Stilleben* opens up new chapters of the story, following semi-abstract icons placed inside the white cube. The process of communication is repeatedly interrupted by rebellious black matter – this strategy is present also in two early examples of "interactive" literature: *The Life and Opinions of Tristram Shandy, Gentleman*, a novel by Laurence Sterne (full of narrative "blackouts") and Gustave Doré's graphic book *History of Holy Russia* (where the abstract ink blots take over the pages of historical treatise).

In *Stilleben*'s sterile and claustrophobic space, a mysterious "para-matter" sets ordinary objects in motion, causing their spectacular deconstruction in the course of time. The white color of the walls, fabrics and electrical appliances may be associated with the illusory peace and quiet of a home, but they become black in the final stage of the story, annexing the spaces which follow. The appearance of danger in a "tamed" space implies a certain conventionality of the territory delineated by humans, constituting both an asylum and prison.

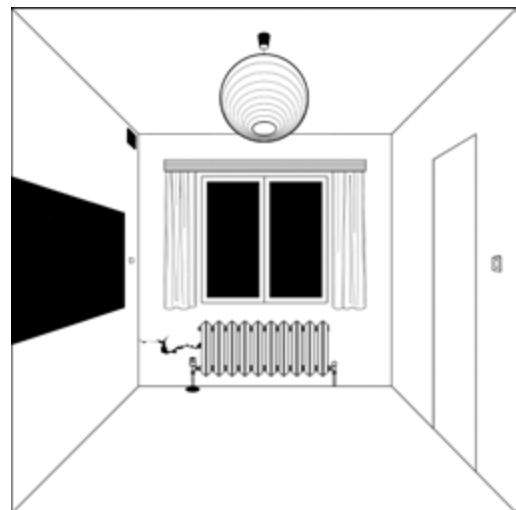
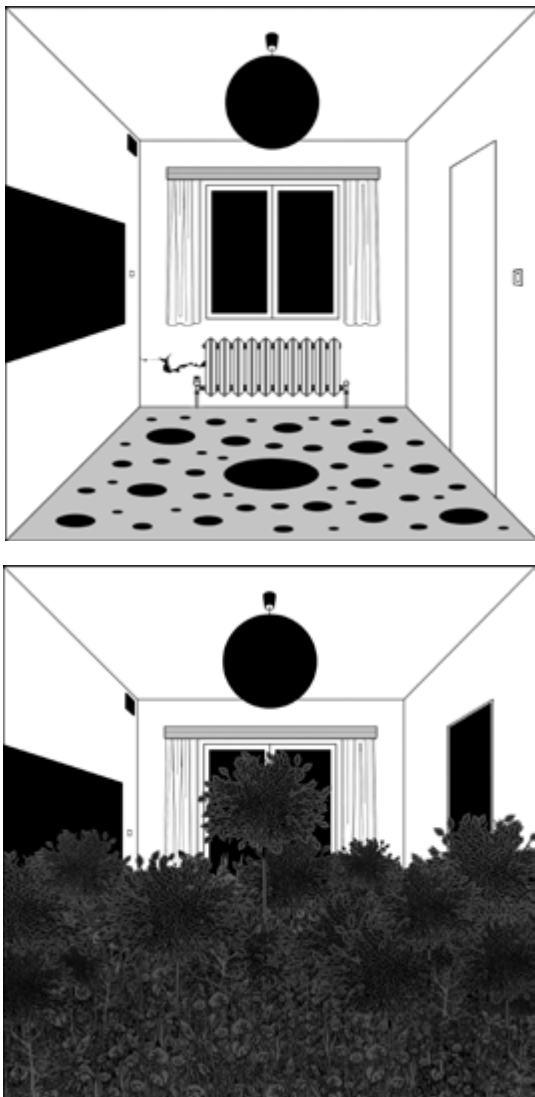


Figure 5. *Stilleben* VR application: "black para-matter" invades.

That's how modernist „machine for living in” (as stated by Le Corbusier in his 1927 manifesto *Towards an Architecture*) becomes an uncanny cabinet of curiosities. It's important to highlight the etymological connection between the idea of “uncanniness” and “home” as a secure human's habitat. This concept was probably first fixed by Sigmund Freud in his 1919 essay *Das Unheimliche* (German word “Heim” is for “home”). According to him the uncanny is the psychological experience of something as “strangely familiar”, which expresses unconscious, repressed impulses

In *Stilleben* the oppositions seem to be interconnected. Even the Genesis and Apocalypse are closely linked: finally, through the dynamic metamorphosis an empty white cube becomes a luxuriant garden. The story of *Stilleben* is also a universal tale of the passage of energy and impermanence of forms, which disintegrate and keep reviving in new shapes.



Figures 6 and 7. *Stilleben* VR application: invasion of “black matter”, white cube becomes a luxuriant garden.

The technology of *Stilleben*

The implementation of the presented project has three components: a) physical space of action, b) computing hardware (inc. VR headset) and c) software application.

Ad a) For the *Stilleben* VR "exposition" the dedicated room was built inside *Ubu Laboratory* at the Jagiellonian University in Krakow, Poland. The room is the exact equivalent of the white Cube of Space - the basic, sterile and claustrophobic place depicted on the before presented storyboards. The physical space of the experience is precisely matched in dimension with the virtual one. This means that if a user encounters a wall in virtual space - he will also encounter it in the real world. The room is closed, and the doors are in the same place "in both dimensions". This allows for the creation of a real sense of isolation, which is crucial for the designed experience. In the room, apart from that, there is only virtual reality equipment, which is hanged at the ceiling on a flexible cable.

Ad. b) Computing hardware includes state of the art PC located outside of the “VR box” and HTC Vive with two Lighthouse Trackers (base stations) and two controllers.

Ad. c) VR software was developed in Unity engine (C# programming language) using VRTK – *Virtual Reality Toolkit* package from Asset Store. Application allows for free movement in virtual space and for interactions with objects (including physics of objects).

Current status and future development

The *Stilleben* prototype is currently available for use at *Ubu Lab* in Krakow, Poland. Future plans include publishing detailed technical report on the work.

Described piece is the study in minimal, experimental design in Virtual Reality. The next step includes application of Augmented Reality to merge classical graphical medium (artbook, graphics exhibition) with the computational one. The new application as well as “portable” version of VR experience will be ready for presentation before June 2018.

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Authors Biographies

Jan K. Argasiński (born in 1985), *PhD*, works at the Department of Games Technology; Faculty of Physics, Astronomy and Applied Computer Science of Jagiellonian University in Krakow (Poland). His research concerns affective computing, game design and development, augmented and virtual reality.

Jakub Woynarowski (born in 1982), *PhD*, is a graduate of the Academy of Fine Arts in Krakow (Poland), where he currently teaches at the Narrative Drawing Studio and conducts a seminar on visual culture. He combines the activity of a visual artist, designer and independent curator. As an author of graphic novels and art books he investigates the feasibility of applying various forms of visual narration as instruments of theoretical reflection. In 2014 he collaborated with the Institute of Architecture as author of the artistic concept of the Polish Pavilion at the 14th Biennale of Architecture in Venice. He co-organized curatorial projects at De Appel Arts Centre in Amsterdam, National Gallery in Prague and Akademie der Künste der Welt in Cologne. His work has been exhibited, among others, at Fondazione Memmo in Rome, Kunsthall Extra City in Antwerp, MeetFactory in Prague and Museum of Modern Art in Warsaw.

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