

# Gallery inside out. Videomapping as Performative Mediation of the Vasulkas' Videoart Archive

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## Introduction

A large-scale interactive projection on the facade of the Brno House of Arts took place on 20 December 2021, on the second anniversary of the death of Woody Vasulka (1937–2019). It was part of the exhibition triptych *Vasulka Live Archive / Interfaces (2021–2022)*. The exhibition has a dispersed character. Its components are situated in public space, virtual reality, and online. The goal of the exhibition project is to promote the work of the Vasulkas collected in the archive managed by the Vasulka Kitchen Brno; the project concept is also based on the idea of building on the creative poetics of this innovative artistic duo. Because they were known for experiments with the implementation of up-to-date technology in the creative process, we emphasize the properties of the technology used in our applied research project, which is artificial intelligence, particularly machine learning carried out by artificial neural networks.[1]

*Vasulka Live Archive / Interfaces* is not a traditional exhibition project because there are neither new images nor remakes of the Vasulkas' work exhibited. Instead, the exhibits are new types of interfaces to the contents of the Vasulkas' archive, which belong to a family of new cultural forms that provide access to and manipulation of data and information. Their techniques include hypermedia, databases, search engines, data mining, image processing, visualization, and simulation. [Manovich 2003: 23] The exhibition triptych is one of the main outputs of a three-year research and application project focusing on the iconographic analysis of the Vasulkas' audiovisual works using artificial intelligence, particularly machine learning, and on the mediation of archive content using innovative, interactive formats.[2]

## Vasulka Live Archive

The focus of the Vasulka Live Archive (VLA) project was on the development and application of intelligent software used for image and sound recognition processing of the archive's content with a focus on audio and visual objects. The archive we had at our disposal contains audiovisual, image, and text files of various types, formats, and quality with a volume of 536 GB. In our project, we focused only on the videos, which consisted of 1252 items with a volume of 137 GB and a total

length of 6 days, 20 hours and 27:30 minutes. The Vasulka Live Archive website traces 105 works by the Vasulkas, represented by 124 videos.

In terms of technology, the project's main outputs were two software tools and a specially designed website. The software tools were developed using machine learning for the iconographic analysis of the Vasulkas' works, focusing on the visual and audio components, respectively. The third piece of software is the interactive web interface Vasulka Live Archive [VLA 2021]. It is equipped with specially designed functionalities that make it a unique epistemological tool for the iconographic analysis of the Vasulkas' works. Machine learning is a method of training intelligent software capable of analyzing a dataset, in our case, a set of the Vasulkas' videos, frame by frame, with pinpoint accuracy, based on predefined recurring visual and acoustic motifs. This process is non-linear and transmedia. The outputs take the form of statistical data relating to the frequency and probability of occurrence of these motifs across the Vasulkas' work. Therefore, the Vasulka Live Archive project should be understood in the context of an emerging discipline, the iconography of the age of artificial intelligence [Spratt 2017: 12], and as part of a broader trend in the use of digital tools in the humanities (digital humanities).

### ***Vasulka Live Archive / videomapping***

A non-linear approach based on the search for similar motifs across the Vasulkas' work was also used by creative director Jiří Mucha and his team in the creation of audiovisual work for the video mapping production.[3] The selection of the videos combined theoretical knowledge of the Vasulkas' work and automatic classification of similar motifs performed by artificial neural networks. The shortlisted videos included works by the Vasulkas that are considered fundamental or typical of their work (such as *Art of Memory*, *Artifacts*, and *Violin Power*). In searching for certain visual and audio motifs, the artificial neural networks specially trained to recognize selected motifs across the Vasulkas' videos were used. In this way, the motifs such as Woody, Steina, machine vision, interior, camera, special effect of Rutt/Etra synthesizer, electronic music or singing, were detected[4]. However, the visual and audio motifs were not only decomposed and put together in a new order, but they were remixed and animated too. For example, from the spinning circle in *Grazing*, Mucha created columns by stacking them on top of each other.

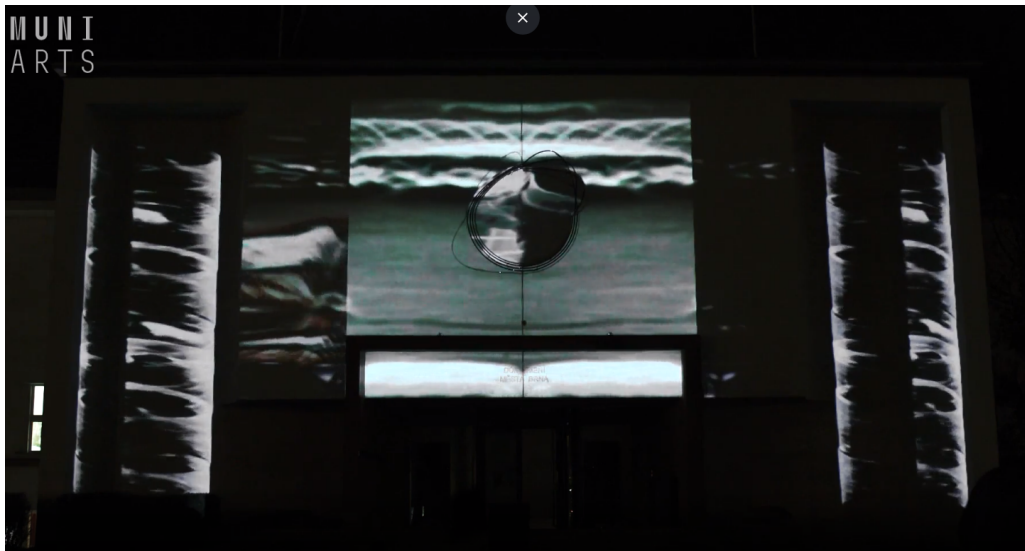


Fig. 1 *Grazing*: From the spinning circle in *Grazing* (Woody Vasulka, 1976), Mucha created columns by stacking them on top of each other.

Another example, one of the Vasulkas' favorite motifs, the orb, was taken from *Vocabulary*, removed from the video frame, and animated to circle the entire front wall of the gallery.

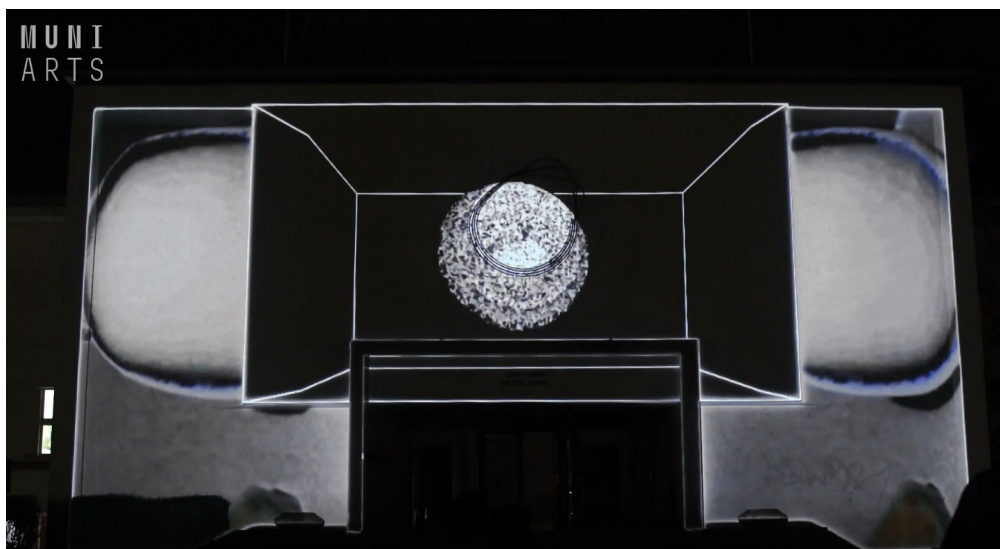


Fig. 2 *Vocabulary*: The orb, was taken from *Vocabulary* (Woody Vasulka, 1973), removed from the video frame, and animated to circle the entire front wall of the gallery

The sound from all the videos was provided to the creators of the mapping as a separate audio track for further processing as well.

From 124 unique video works in the Vasulkas' archive, Mucha selected 18[5], from which only fragments were used in the final work.

List of videoworks used for mapping:

01. Woody and Steina Vasulka: *1,2,3,4* (1974)
02. Woody and Steina Vasulka: *Studies of Theater of Hybrid Automata* (1993)
03. Woody and Steina Vasulka: *Voice Windows* (1997)
04. Steina Vasulka: *Violin Power* (1978)
05. Steina Vasulka: *Vocalizations [Vocaqartet]* (installation) (1990)
06. Steina Vasulka: *Vocalizations [Vocaqartet]* (video) (1990)
07. Woody Vasulka: *The Commission* (1983)
08. Woody Vasulka: *C-Trend* (1974)
09. Woody Vasulka: *Grazing* (1976)
10. Woody Vasulka: *Artifacts* (1980)
11. Steina Vasulka: *Distant Activities* (1972)
12. Steina Vasulka: *Trevor* (1999)
13. Woody Vasulka: *Art of Memory* (1987)
14. Woody Vasulka: *Vocabulary* (1973)
15. Steina Vasulka: *Orbital Obsession* (1977)
16. Steina Vasulka: *Tokyo Four* (1991)
17. Woody Vasulka: *Explanation* (1974)
18. Woody Vasulka: *No.25* (1976)

These video works were subjected to sampling, remixing, and various forms of manipulation (using Adobe After Effect and Cinema 4D software tools). In addition, some of them were processed by Pavel Sikora with the help of the Deep Dream software [Mordvintsev u.a. 2015] and Lucid Library so that the viewers of the video mapping could also observe the pseudo-cognitive processes of artificial neural networks work in the analysis of these videos. The result is a new audiovisual work referring to the remix aesthetics of music videos, based on the associative ordering and layering of audio and video motifs, and on dynamic editing that rhythms the viewer's experience in a way which is reminiscent of experimental avant-garde film.

The projection lasted about 10 minutes and contained several parts in which clusters of motifs were taken from the Vasulkas' videos and reconnected in new ways. In the beginning, the façade of the Brno House of Arts was transformed into a projection screen by basic symbols, numbers

and letters (*1-2-3-4, Theatre of Hybrid Automata*), and then was replaced by motifs of a midi violin used as an interface and a score (*Violin Power, Voice Windows, Vocalizations, Vocaquartet*); these were followed by surreal multiplications of Steina's mouth (*Let it Be*); then Woody Vasulka let the audience peek at his artistic laboratory (*Artifacts*), whose workshop-like informality was interspersed with associative images of Paganini from *The Commission*; finally, Mucha projected photographs of Steina and Woody Vasulka while playing audio from *The Art of Memory*, referencing the occasion of the projection release, which was the second anniversary of Vasulka's death.

Mucha used remix aesthetics based on multiplications, superpositions, transformations, samplings, and deconstructions of the videos. But also a Situationists strategy of deflection can be identified in the form of combining sounds and images from different videos, or videos manipulated to the point that they become raw, abstract material for further use. The remix was a creative strategy based on the transformation (sampling) of the Vasulkas' videos into a new work. It is a gesture of both life-giving appropriation, and homage to the creators. The resulting audiovisual work must also be seen as an authorial way of presenting the archive's content, i.e., as a curatorial achievement with a significant authorial contribution.

### **Remix and machine learning**

In the chosen procedure, a motivic, thematic arrangement prevailed in which we can recognize analogies to the functionalities of artificial neural networks. Matthew Fuller says that translation from one medium to another is an effective way of making the overly complex or hidden processes beneath the surface of computer screens visible and therefore understandable. [Fuller 2008] However, Eduardo Navas understands the relationship between remix and machine learning (the work of intelligent software) as analogous, a more or less complex example of remix, and in terms of human vs. algorithmic activity, as a relationship between creativity and metacreativity, or in the case of remix, as products of meta-creativity and meta-metacreativity respectively (in the sense of a remix-based model of human creativity). [Navas 2021]

### **Video mapping as a performative exhibition**

Video mapping, projection mapping or spatial augmented reality, is a term for "projection ... onto any surface, turning common objects of any 3D shape into interactive displays. ... [Video mapping is] the display of an image on a non-flat or non-white surface." [Projection mapping n.d.] The

definition of video mapping emphasizes the interaction between the film and the surface on which it is projected. In this case, it takes the form of mutual informing and conditioning – as the projection transforms the façade, the facade structures the projected video.

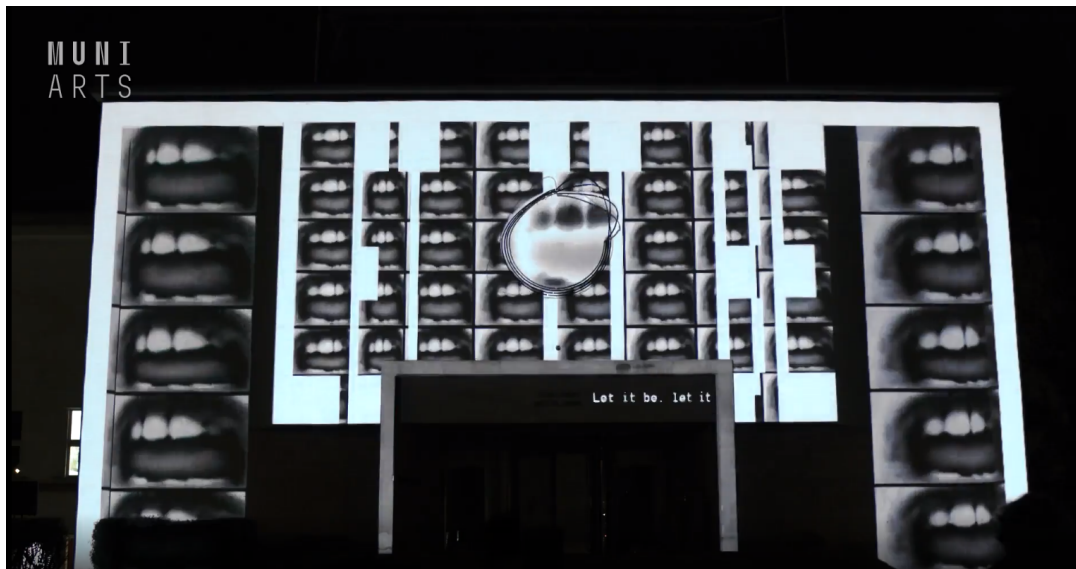


Fig. 3 *Let It Be*: Example of image multiplication

The originally decorative Art Nouveau facade of the front wall of the Brno House of Arts was redesigned in a functionalistic style by architect Bohuslav Fuchs after the Second World War and reconstructed in the same style in 2007 by architects from the Hruša a spol. atelier. (BAM 2022) It consists of a rectangular façade, which is symmetrically surrounded by the building's L-shaped walls in the rear plan.

The facade of the House of Arts has become a vital structuring factor for video mapping. Its clean geometric shapes and numerous, symmetrical articulations and layering make it an ideal setting for video mapping. The architectural layouts thus essentially defined the language of the audiovisual work – a rhythmic work with superimpositions, juxtapositions, and layering that resembles keying or interactions between background and figure used in many video works.

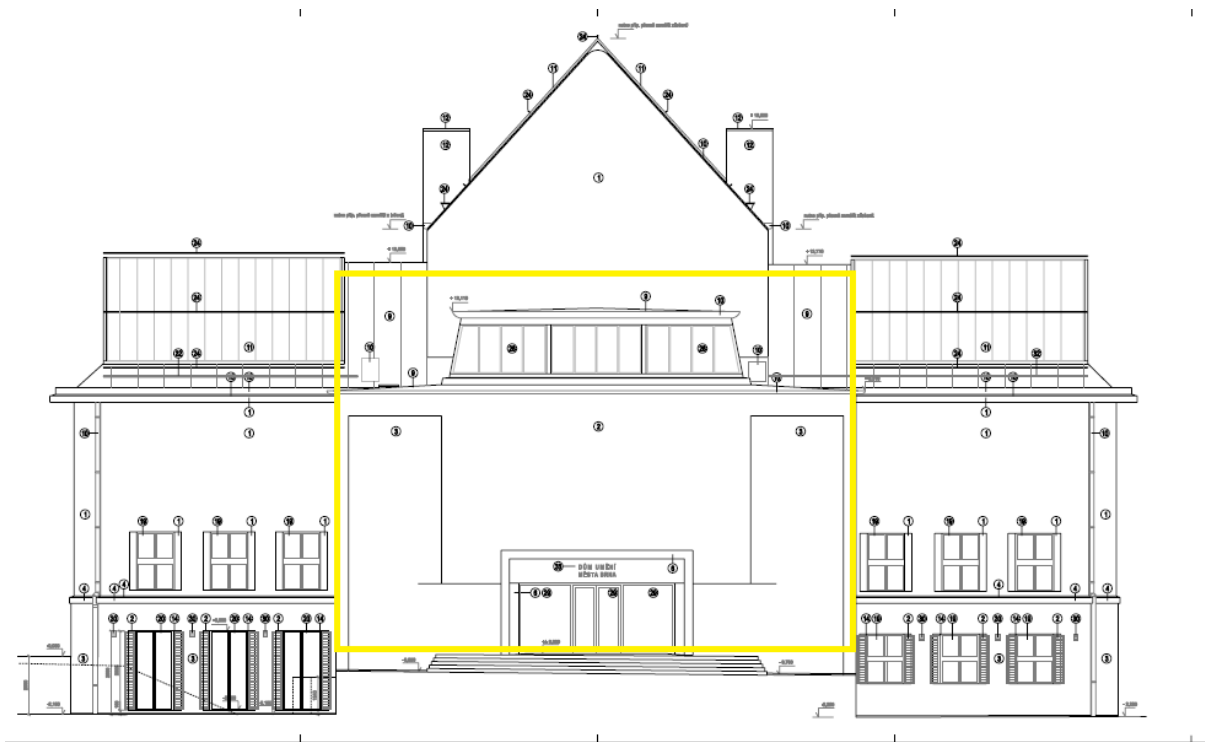


Fig. 4 Architectural drawing: The facade of the Brno House of Arts

### Conclusion – Gallery upside down

Video mapping Vasulka Live Archive has presented a spectacular alternative to conventional gallery practices. At the same time, it was an optimal solution for the exhibition as its implementation was not subject to anti-pandemic measures. When exhibition institutions, like galleries or museums, looked for ways to engage with their audiences during the COVID-19 pandemic, many projects were created online or in gallery windows and walls used for the display of artifacts. In the *Vasulka Live Archive /video mapping*, the facade was used as a gallery space – it literally turned the gallery inside out. Rather than the gallery’s interior, the exterior walls become the backdrop and stage for the video projection. Video mapping on the facade of an exhibition institution should be understood as a gesture extending the Vasulkas’ intention to free the medium of video from constraints, whether it was the frames of television boxes or perhaps the white cube of a gallery or the black cube of a cinema theatre. The large-scale projection onto a textured background also refers to the environments the Vasulkas created in their peak period. The form of augmented reality can be found, for example, in Steina Vasulka’s installations (*Cascades*, 2000; *Mynd*, 2000), and Woody Vasulka’s staged videos in the space of the New Mexico desert in *The Art of Memory* (1987).

Video mapping has provided both a tribute to the Vasulkas' artistic legacy as well as a model of the way artificial intelligence (artificial neural networks) sort and cluster audio-visual motifs across the Vasulkas' work during its pseudo-cognitive operations of learning the content of the Vasulkas' videos database.



<https://vasulkalivearchive.net/Pictures/videomaping.mp4>

Fig. 5: Video-documentary of the Vasulka Live Archive / video mapping. (MUNI ARTS, 2022)

### **The Vašulka Kitchen Brno Archive – Brief Report on the Ongoing Project**

#### **Collection, Archive, Personal Fund**

The (not yet) sorted collection located in the Vašulka Kitchen in Brno (VKB) includes both physical and digital artworks. Its processing is financially supported by a grant from the Ministry of Culture of the Czech Republic and started in spring 2020. Since then, we have been working mainly on the analysis of the archive's content, its systematization, and a database model that would be compatible with current standards and systems used by other institutions managing media archives in the Czech Republic and abroad.

A guide including an acquisitions minimum policy and a collection handling procedure was created. It sets the basic standards for the handling, moving, and protection of the artworks in the existing collection and archive. The document also contains instructions for the acquisition of new materials and documents for the VKB Brno collection-archive. All the physical media and materials were registered properly, and a photographic documentation was created.



The core collection consists of several artworks by Woody and Steina Vašulka either owned by VKB or on long-term loan: prints from the *Lucifer's Commission* series (1977–2003), a computer study from the *Triads* series (2003), and the spatial installation *Light Revisited – Noisefields* (2001), a transformation of the original collaborative single-channel video *Noisefields* from 1974.

There are 868 GB of partially inventoried data in the VKB folders, 16 Hi8 tapes, 53 VHS tapes, 37 MiniDV tapes, 33 DVDs, and a box with 8 catalogues, all delivered to Brno by mail from Santa Fe on 28th December 1992. This is a collection of master tapes and master tape variations in digital or digitalized form that were given to the members of VKB by the Vašulkas. It also includes artworks from the *MindFrames* exhibition at ZKM (2006) prepared by the Vašulkas in cooperation with Peter Weibel, featuring the following artists: Tony Conrad, Hollis Frampton, James Blue, Paul Sharits, Peter Weibel, and Gerald O'Grady.

In this phase of research, we know that our collection contains artworks – physical, digital, or mixed media in the form of multimedia installations, digital and analogue data and media, a personal fund (various documents of a personal nature, e.g. photographs), web pages entirely archived on a computer by the Vašulka family, software, manuals, documentations of artworks, events, and other diverse material such as the contents of Woody's computer and various analogue technical equipment or players.

Tomáš Ruller and Miloš Vojtěchovský received exhibition catalogues and analogue artworks – videos on miniDV, Hi8, VHS – directly from Woody and Steina Vašulka in the 1990s. Part of the digital collection, or rather the personal fund that has not yet been processed, consists of materials donated by curator and art historian Lenka Dolanová, who received them from the Vašulkas during her stay in Santa Fe. These materials include texts by the Vašulkas and other authors (studies, grant applications, concepts, catalogue scans, posters, video screenshots, short audio-visual studies, and a photographic archive of the Vašulkas and collaborators).

Most of the materials date from the New York Kitchen period.

### **Gigabytes of Data and Unanswered Questions**

When working with audio-visual materials, our small research team is confronted with the issue of preservation and the archiving of moving images and so-called born digital artworks, while a verified methodology has not yet been fully established in the local context. This is due to the factors such as the originality of the artefact, the valuation of digital (digitised) copies of artworks, their preservation and archiving, or the obstacle of certain formats which cannot be mediated to the public directly and are just an item stored in the collection depository.

Cooperation between institutions that own the same artworks or copies of them, and the possibility of exchanging materials for the sake of their long-term preservation are also an important part of discussions on material requiring revision and professional categorisation.

Another challenge is designing an architecture of digital catalogue, interconnecting artworks metadata from various archives. This database will refer the VKB Archive visitor to the most original materials, regardless of where they are stored. Another important task is to find an adequate method of opening the archive to the public – possibly through curatorial selection, discovering relations between artefacts, or initiating new artworks and research projects inspired by specific archival material.

The search for answers to these and other questions related to archiving works of (not only) media art is all the more exceptional because this small research team is not a formal part of an institution. This limitation is perhaps the reason why we must consciously compare our practices and actions with reference to the practice and poetics of Woody and Steina Vašulka, artists who maintained artistic freedom throughout their creative lives.

Barbora Šedivá and Kateřina Drajsajtllová  
Coordinators of the Vašulka Kitchen Brno Archive processing project

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[1] For more detailed information on the whole Vasulka Live Archive–project see <https://vasulkalivearchive.net> and the short introduction to the work of the archive at the end of this contribution.

[2] The project Media Art Live Archive: Intelligent interface for interactive cultural heritage mediation (No. TL02000270) is co-financed with the state support of the Technology Agency of the Czech Republic within the ÉTA program.

[3] *Vasulka Live Archive / videomapping*. Brno House of Arts, Malinovského náměstí 2, Brno 20. 12. 2021, 18:00, 19:00, 20:00

Curator: Jana Horáková; Creative directed: Jiří Mucha; Motion designer: Tomáš Carda

Artificial Intelligence Program: Pavel Sikora, Štěpán Miklánek (using Lucid and TensorFlow library)

Sound post–production: Roman Ševčík

Rental and installation of projection equipment: David Zaorálek and David Šamánek (Spectrum Brands)

Technical support: Pavel Daněk (Brno House of Arts)

[4] See Tab. 2 Categories of visual and sound objects: <https://vasulkalivearchive.net/Software25.05.22>

[5] List of works from which the video mapping was created with annotation of the video processing in Czech:

[https://docs.google.com/spreadsheets/d/1bqEGQTTToWxwGEORCMjOzkrNeDxB0s6OMNiuuD\\_VTiTc/edit#gid=025.05.2022](https://docs.google.com/spreadsheets/d/1bqEGQTTToWxwGEORCMjOzkrNeDxB0s6OMNiuuD_VTiTc/edit#gid=025.05.2022)

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[1] <https://www.li-ma.nl/lima/news/documentation-digital-art> 26.05.2022.