



# SYNCHRONY AND SYNCHRESIS: ELECTRO-SYNESTHESIA

Zsolt Gyenes

Rippl-Rónai Visual and Performing Arts Institute | MATE University | Kaposvár (Hungary)

## Abstract

Light, sun, and electricity are mysteries. Everything wobbles and oscillates between two extremes; light and dark, day and night, and life and death. Since the 1970s, with the advances in electronic technology, sound and image could easily be manipulated in real-time. Every parameter of each electro-medium can be converted into data, and then used as an input in the other medium. The electronic and digital era allowed the birth of a new kind of real-time performance and a new kind of artistic method or/and attitude. The relationships between sound and image in connection with visual music are much more than a simple translation of sound frequencies to color, light, and shapes.

By analogy with synesthesia, according to which special connections can develop between different sensory organs, I discuss the scope of “electro-synesthesia”. Here similar connections can be established between the individual media (which are individually connected to one sensory organ). In the world of media, the artist is the “creator” himself. Mostly I dissect the relationship in connection with the synchrony and “synchresis” (Chion) between sound and motion picture. The goal is to outline the quality of the differences, or even identities, between the two. The parallel and the opposite of real and virtual, their interaction may therefore be the subject of further investigation in this regard.

## 1. Visual Music

The relationships between sound and image in connection with visual music are much more than a simple translation of sound frequencies to color and shapes. It is also about expressivity, dynamics, rhythm, and more?!.  
What kind of role do artists who take an experimental approach to sound play, and how do they contribute to the debate: What is “*realism*”?

There are a variety of visual structures which could be called visual music. Classified as a specific type of (intermedia) art, VM is principally concerned with the use of musical structures that make reference to and connect with visual expressions. In many cases, sound or music is transformed into pictures through a variety of means, but equally viable solutions in the opposite direction can be imagined too, particularly when the visual elements (and other structures such as text) are converted into sound. Visual music, therefore, can be thought of as a search for a unified spirit. The genre is known for producing exciting experiments to match, synchronize (and sometimes a-synchronize) sound and (motion) pictures. The different media are not perceived as one complementing the other but are built together where one is determined by the other. One can step from one to the other through different transcoding, with the presented end product that can be termed as a visible acoustic. At the point where a sound event and a visual event meet in synchrony,

the effect of “synchresis” (Chion) becomes particularly prominent.

Personally, as an artist and theorist, I am interested mostly in the new possibilities of this genre. Which (new) passages can appear between the sound and pictures? What is the characteristic feature of synchrony or asynchrony? How can we interpret “synchresis”? What role do electronics, analog, digital, hybrid, and new technology play in all of this? The fact is that we holistically perceive our surroundings, so why should we renounce this in the field of art? Let’s also remember that, strictly speaking, the visual music tradition stretches back to something like 300 years – it is, quite simply, a tradition that marries visuals through sounds and explores the correspondences that arise from this interlink.

Through electronics and computers, people have created an active, creative partner to produce wholly new (aesthetic) experiences. Through the new technology, visual acoustic works of art experiment with new ways of merging sound and image, creating holistic works that meld traditional and new media through a software world, in search of realizing a new, magical age.

Different techniques and tools can be used in connection with visual music, such as applying video-synthesizer, eye-tracking equipment, 3D mapping projection, interactive installation, audiovisual works of art, data generation, etc.



## 2. The early interactive media instruments

Using real-time electronic audiovisual tools dates back to the 1960-80s. Though most of the artists in that time worked and edited in real-time, the completed pieces were fixed media.

The analog audio-video signals are one of the 20th Century's most exciting innovations. Using the early media instruments, one can make interactions with machines. These tools with analog audio-video processing make improvisations possible.

The 21st Century's digital apps create a new chance for experimental artists. These apps are payable and easy to carry products (portable: studio in a suitcase). Both types of image-making (analog, and digital) have their different creative uses and strengths, but it seems the fusion of them could fasten and satisfy the contemporary (experimental) artists. Among other things, analog colors and sounds are more "organic" entities, and the digital technique excels in attainability, HD resolution and accuracy.

Analog video is an open, modular system consisting of different components. There are various possibilities to transmit signals. The processual structure of video allows multiple connections of the devices as well as the exchange of audio and video signals. Sound signals can be translated into image signals and can therefore control the visual phenomena of video. The electronic information can, at the same time, be realized acoustically and visually. The image and sound are

produced from the same source. They work together like musical instruments, and they can interact too. Every transposition is a manipulation, deformation, and/or distortion. The analog video synthesizers are basically video equivalents of audio synthesizers, allowing one signal to be used to control another signal in real-time.



Figure 1. Analog studio in Signal Culture, Owego, NY, USA, 2019 (photo: Zs. Gyenes).

### 3. Synchrony and/or Synchresis?

“A point of synchronization, or synch point, is a salient moment of an audiovisual sequence during which a sound event and a visual event meet in synchrony. It is a point where the effect of synchresis (see below) is particularly prominent, rather like an accented chord in music. [...] Synchresis (a word I have forged by combining synchronism and synthesis) is the spontaneous and irresistible weld produced between a particular auditory phenomenon and visual phenomenon when they occur at the same time. This join results independently of any rational logic” (Chion, 1994, p. 58, p. 63).

The synchronicity between sound and motion/images is based on some kind of automatism. For example, sound generates a moving image; as a result, various changing colors, and shapes appear. Rhythm, pitch, etc. are the factors that make this connection possible. We pretty much see what we hear – but not yet. The “medial shift” inevitably brings with it an “aesthetic shift”; transpositions and modifications take effect, or rather become the determining drivers of the intermediate process. The “synchresis” takes the creator and recipient further along this path. The possibility of conscious interventions, of human “error,” is, therefore, another constructive element. The result can be a multi-layered, polyphonic, multimodular work of art that opens up innumerable possibilities in time and space in understanding, and perceiving with eyes and ears.

Life is interactive. Interactivity (e.g. oscilloscopes, audio, and video synthesizers) appeared in the electronic/digital world from the very beginning. One signal is easily transformed into another, evoking another signal while a medial shift occurs. With “medial” change, a different artistic quality is created. The shift involves or puts another sense organ in focus, and then a new relationship develops with the previous one.

Usually, the same signal is transformed and takes on a different “look” during the transformation; enters another perception, the sensory organ. It looks like synchronicity is closer to synesthesia.

The “One Minute Signal” is an audiovisual work; a fixed version of a multimedia improvisation. The generated audio signals create light shapes that move in an analog way. We see what we hear. With the change of media, the union of the senses also takes place, although the initial signal remains the same. The process may also remind us of certain phenomena of synesthesia, although the relationship between different expressions (linked to the senses) here is perhaps more “strict” than that.

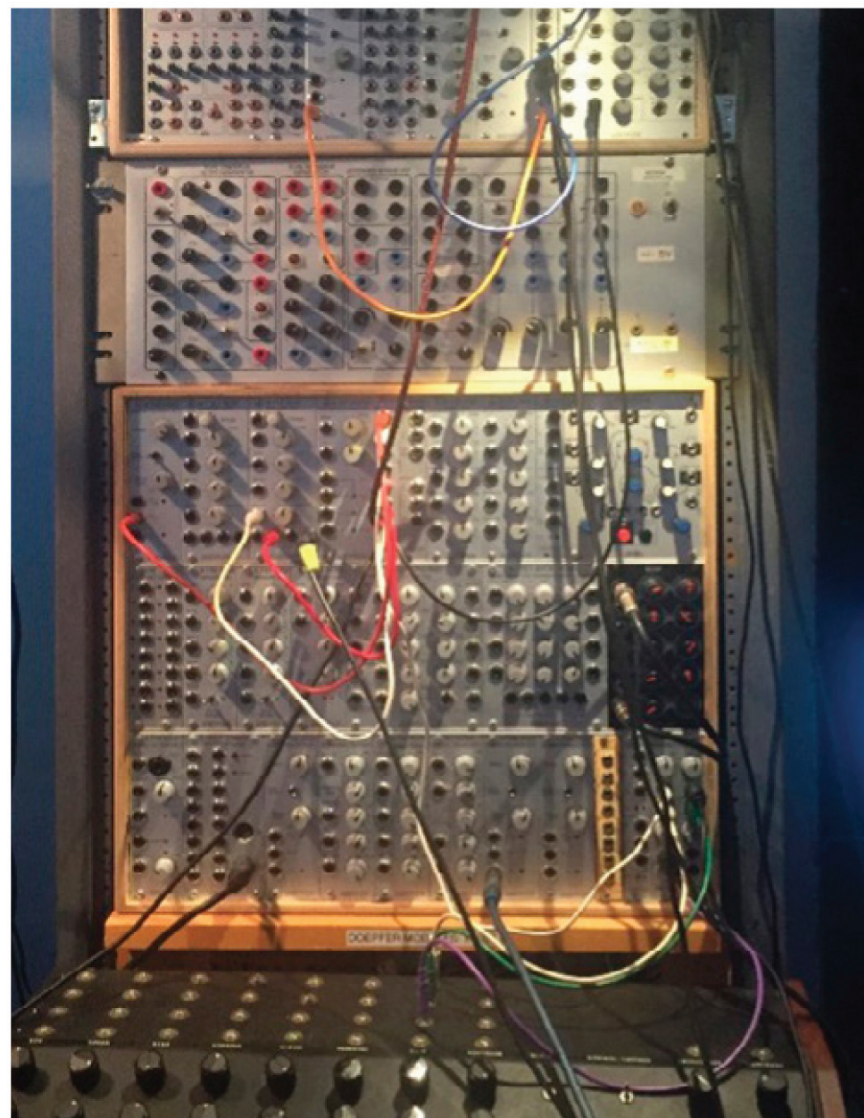
*The By the way of rhythms – The Lamentation over the death of Henri Michaux* is an experimental video for the music of Ákos Nagy (*Par la voie des rythmes – La Déploration sur la mort d’Henri Michaux*).



The composer writes: *“The piece is built up from several different audio interfaces which are based on Henri Michaux’s book titled Par la voie des rythmes on the one hand, where the automatic writing is becoming calligraphic art and then very different meaning contents. In the case of Michaux these can always be transformed into his self-made ABC set (see H. Michaux: Alphabets/Arbres des tropiques/ Mouvements book) so in this way the drawing can become writing and writing can become drawing. I wanted to make this very interesting and only Michaux-characteristic articulation of the main organizing principle of my music. On the other hand, I wanted to emphasize the interoperability between different cultures which I was interested in as well”* (Nagy, 2020, manuscript).

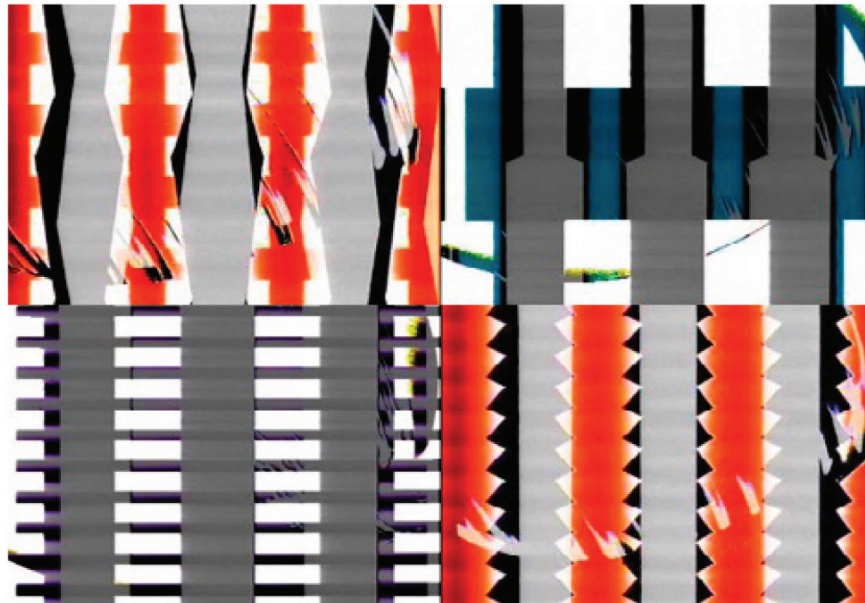
At making the visuals, I used a hybrid technique. In the first phase, I applied analog video, like Jones Mixer/Colorizer, Wobbulator, and after used digital after-effects. Music and visuals are in a juxtaposition, sometimes moving in synchrony and then moving away to reinforce each other at points of “synchresis”.

**Figure 2.** Analog technique. Doepfer modular audio synthesizer and Jones Mixer and Colorizer, Signal Culture, 2019 (photo: Zs. Gyenes).





The work is a consequence of the multidirectional dialogue between the two creators and the machine. Here, also, I feel a parallel; but towards freer-faced synesthesia. In both cases, albeit to different degrees, real-time, interactive, sound-generating, i.e., “life-like” sensory connections play a role. The “One Minute Signal” is based on synchrony, while the second is based on a “looser” system, which is featured as “synchresis”.



**Figure 3.** “One Minute Signal”. Still images from the audiovisual work of art, 2019.

Can these examples be models for certain forms of synesthesia? These mentioned audiovisual works of art are built on the multidirectional movements, transformations, and interactions of different media. One can highlight the fact that image yields sound, sound yields image, while the numeral value of the basic information is usually equal.



**Figure 4.** *By the way of rhythms — The Lamentation over the death of Henri Michaux*. Still images from the audiovisual work of art, 2020



#### 4. Conclusion (Electro-Synesthesia?)

Can the discussed medial relationship be a model of synesthesia and, if so, can we better understand the synesthetic processes through them? Are we facing “virtual synesthesia” or is it something else and staying within the known categories like visual music, visualization, or sonification?

Analog, digital, or hybrid, real-time audiovisual techniques can stimulate the experimental artist’s holistic way. The fusion of analog electronics and digital methods opens the door to even more possibilities, settlings. With all the audio and visual elements taking place in real-time, the author can play it like an instrument. It changes the decision-making process of the artist, although, in most cases, the final opus is fixed media. There are no editing or splitting points in the mate-

rial (like in “real life”). The coordinated, directed motion of the human body determines the process and structure of the work of art supposing dynamic thinking and acting.

The experimental artist plays against the medium, the apparatus; he/she would be so flexible. Randomness also plays an important role in these works of art. Last but not least is mentioned that the artist who applied audiovisual electronics could create “anything” from “nothing”; the cores are the signals ....

Visual music and synesthesia are closely related to each other in many components. In my opinion, the electronic-based synchrony and “synchresis”, or the similar thinking and approach, can be regarded as models of certain forms of synesthesia. This is more than only an association.



## REFERENCES

**Chion, M.** (1994). *Audio-Vision: Sound on Screen*. Columbia University Press, New York City.

**Flusser, V.** (2000). *Towards a Philosophy of Photography*. Reaktion Books, London.

**Hawkins, P. S. – Underwood, M.** (2010). *Early Media Instruments*. Experimental Television Center, Owego, New York.

**Keefer, C. – Ox, J.** (2006-2008). *On Curating Recent Digital Abstract Visual Music*. Online: [http://www.center-forvisual-music.org/Ox\\_Keefer\\_VM-htm](http://www.center-forvisual-music.org/Ox_Keefer_VM-htm) (09. 06. 2022.)