

SYNESTHESIA BETWEEN SOUND AND COLOUR

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SUMMARY. Synesthesia is a syndrome or better said a psychological state that became manifest in music, art and literature. Mainly in the 20th century it takes a different shape as a result of scientific progress and especially of the effects it has generated. Synesthesia in music is recognized due to the effects created by Alexander Scriabin in *Prometheus – The Poem of Fire* as well as "the painting" on the score of Hartmann's pictures in his famous work *Pictures at an Exhibition* by Modest Mussorgsky. At the opposite pole we come across synesthetic episodes in pop-rock music or in disco dance music. The Avant-garde is a decisive factor of synesthetic development due to the synergy between music and visual art. The appearance and diversification of synesthesia creates new effects that influence all the people who interact with music and colours directly or indirectly.

Keywords: synesthesia, music, colour, Avant-garde, Scriabin, Mussorgsky

Synesthesia is a psychological state that is common to certain categories of people. In terms of terminology, synesthesia has several meanings. This state appears under the form of a mix of the senses (sight, hearing, smell, touch) the sense of sight and hearing being the most asked for.

In terms of etymology, synesthesia comes from two Greek words: *syn* (together) and *aisthesis* (perception).

Most certainly the syndrome called synesthesia appeared from ancient times, but in the 20th century it takes a different shape.

Some medical studies conducted by different research centres both in Europe and in USA confirm the fact that synesthesia manifests itself most often among artists, musicians or writers.

The factors that lead to synesthesia can be of a pathological nature or can be caused by means of different external factors: alcohol, drugs, medicine. These types of synesthesia will be referred to below.

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Synesthesia in music

Music is a decisive factor in generating and supporting synesthesia. In an incursion in the history of music, one of the most eloquent synesthete composers is the Russian origin composer Alexander Scriabin, who composed *The 5th Symphony*, also called *Prometheus – The Poem of Fire*, the work that best illustrates this phenomenon. At the same time, the Impressionist composers – Claude Debussy or Maurice Ravel, as well as other representatives of Romanticism or Avant-garde in music - Modest Mussorgsky, Franz Liszt, Hector Berlioz, Edgar Varèse, Olivier Messiaen or Iannis Xenakis would be suspected of episodes of synesthesia that are present in their work.

In the field of jazz, pop, rock or disco – dance music, we come across a series of artists that rely on synesthesia. Some of them even admit this fact in different interviews, others are only suspected of synesthesia without any convincing proof to show that we are dealing with a certain type of synesthesia.

Syd Barrett, singer, composer, painter and founder member of the rock band Pink Floyd is one of the artists who had several episodes of synesthesia. They were expressed by means of music and painting generated with external influences – drugs and alcohol. Barrett's biographer Tim Willis said: "... he wanted to say that a sound represented a colour for him". At the same time, while he was working for the recording of his first solo album, Barrett experienced certain episodes of synesthesia: "maybe we can make the middle more closed, and the end a little bit more grey, at the moment, there's too much wind and ice" (Willis 2002, p. 106). His biographer said that Barrett "lured" his songs. In Syd Barrett's case the episodes of synesthesia were not isolated. Synesthesia as an experience was part of the band's stage performance at that moment, one of their concerts in 1967 being called "Music in colour".

The profile of people with episodes of synesthesia is frequent even today. Amongst the musicians who publicly admit it, is the famous singer Lady Gaga. She stated in an interview taken by a TV station in Singapore that she is "obsessed with the 70s, Andy Warhol and Studio 54". At the same time she says: "...I design the show simultaneously with the music (...), as I was writing (...) I was always performing live in New York, so the show was sort of designing itself as I was making the album. (...) When I write songs I hear melodies, and I hear lyrics but I also see colours ... I see sounds like a wall of colours. Like, for example Pokerface is a deep amber colour"².

² Lady Gaga interview

http://www.youtube.com/watch?feature=player_embedded&v=SOynq06e_CQ#

Another famous artist of the 20th century is the actress and singer Marilyn Monroe who experienced synesthesia episodes³ perhaps also due to the influence of LSD, an extremely dangerous synthetic drug that can cause different reactions, including death.

Case study 1

Alexander Scriabin - Prometheus – The Poem of Fire

The 5th Symphony also called *Prometheus – The Poem of Fire* is an extremely emotional work that I had the pleasure to play together with Banat Philharmonic Orchestra from Timișoara on 23rd April, 2010. The symphony op.60 was composed in 1910 for piano, choir, orchestra and *clavier à lumières*, (colour organ), an instrument built by Preston Millan, which, unfortunately is rarely used in concerts. The concert in which this instrument was used in order to follow Scriabin's score, was given in 2010 by the Yale Symphonic Orchestra (Fig.2).

The colour organ used in Scriabin's music which appeared at the beginning of the 20th century undergoes a major development around the 60s and 70s when it starts to be used in electronic music, due to the light shows it creates. Even so, we come across it in different contexts starting from the 16th century, when the Mannerist painter Arcimboldo created a system of music and colour based on the contrast light – darkness.

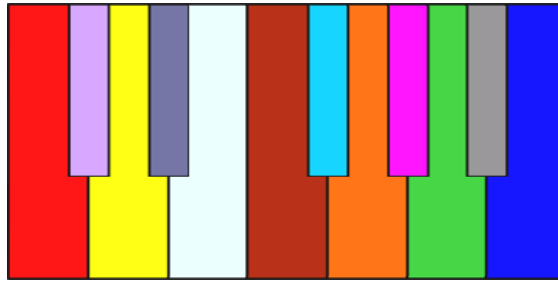
In 1725 a Jesuit monk talks about constructing a harpsichord for the eyes made up of 60 pieces of stained glass, each of them being revealed when one key is touched, similar to the church organ principle made up of air pipes.

In 1916 the futuristic painter Vladimir Baranoff Rossiné builds up the optophonic piano which sends out sounds and projects colours on a wall. The colours changed depending on the sounds that were sent out and were formed on different pieces of stained glass painted by the artist himself. This piano was used by the artist to give different performances, but it was also used by the Bolshoi Theatre in 1924.

The British painter Alexander Wallace Rimington is in fact the real inventor of the *clavier à lumières* (1895) (Fig. 1), instrument that drew the attention of many composers of the time, including Richard Wagner.

³ Daily Mail, Rob Waugh, 23.11.2011

Fig. 1



colour organ

The colour organ used in Scriabin's work produces both colour and sound, so that each key on the keyboard is associated with a colour that the composer associates with a sound (Fig. 2).

Fig. 2



Scriabin, *Prometheus* - Yale Philharmonic Orchestra

The score (Fig.3) does not offer details about the meaning and role of this instrument in the work, and this is the reason why several opinions were expressed on the matter. It is thought that Scriabin wanted each colour pertaining to each note to be projected on a screen during the musical interpretation similarly to a performance, so that the generated colours floods the hall, or even better, the mind and the perception of each

viewer. The colour organ appears on the first line of the score, above the flutes which gives the colour organ more importance than the soloist instrument (Fig. 3). According to the general score rules, even the soloist instrument appears somewhere in the middle of the score among the orchestra groups of instruments. We can thus easily deduce the importance that Scriabin gave to this colour instrument both visually and sonorously.

Fig. 3

PROMETHEUS
The Poem of Fire

Alexander Scriabin, Op. 60
(1872–1902)

A. Scriabin – Prometheus, The Poem of Fire – general score

The harmony used by Scriabin in this symphony is dissonant, being based on the chord A D# G C# F# B, which is the chord of Prometheus, and it also represents the chord at the beginning of this sonorously eerie work. This work has a historical connotation, Prometheus being the character who stole the fire from the gods in order to give it to the people thus annoying Zeus who constantly tried to avenge on him. From this point of view Prometheus is a humanitarian. This is the reason why the work begins with this mystic chord, and ends with an F-sharp major chord.

In order to better and more realistically express the action of this symphonic poem, Scriabin uses a generous orchestra: 4 players for each woodwind instruments, 8 horns, brass, a large variety of percussion instruments, 2 harps, celesta, piano solo, organ, strings, mixed chorus and, as previously mentioned, *clavier à lumières*.

Case study 2

Modest Mussorgsky – Pictures at an exhibition Synesthesia or just coincidence?

Pictures at an Exhibition is a composition for piano solo composed by Modest Mussorgsky in 1874, one year after the death of the Russian architect and painter Viktor Hartmann. The artist's death, aged only 39, came as a result of his aneurysm shaking the entire Russian art world. Together with V. Stasov, Mussorgsky organizes an exhibition of over 400 Hartmann works at the Art Academy in Moscow. This exhibition made the composer compose *Pictures at an Exhibition* in six weeks. This work for piano evokes 10 of Hartmann's pictures. Although it is a programmatic work, structured on 10 pictures, the composer is the one who is in an art gallery and each picture he sees is transposed on the score. The name of each movement of the composition corresponds to a picture from the exhibition and the message of each picture is musically rendered by an instrument, actually the contents of each picture is transposed on music. One should not forget the composer's *Promenade* which is played by trumpet, horn, woodwind instruments or the entire orchestra.

The entrance in the exhibition is made by the trumpet which opens the way towards the first picture – *Gnomus* which represents the nutcracker in Hartmann's view. Unfortunately the sketch was lost. The *Promenade* in a different tone colour (horn) represents the artist's walk to one of Hartmann's water paintings, which represents a medieval Italian castle – this one also lost - *Il vecchio castello*. The following movement, or better said the next display, leads us to the Parisian gardens - *Jardins des Tuileries* – where a

swarm of children playing is represented. *Bydło*, which according to the Polish dictionary means „cattle”, is represented in Hartmann’s painting by a cart drawn by oxen. The *Ballet of the Unhatched Chicks* was created in order to design the décor for the ballet Trilby. *Samuel Goldenberg and Schmuyle* are two Jews one of them rich and the other poor, this being the only movement of the composition where Modest Mussorgsky refers to two of Viktor Hartmann’s pictures. *Limoges*, a well-known French city represents another plastic arts attraction depicting a typical marketplace of the century. From the market atmosphere the composer transposes the listener in the *Parisian Catacombs* using the entire brass instruments ammunition in the orchestra as well as closed sonority and B minor. In Mussorgsky’s view this picture reminds the viewer of a character who took part in mortuary scenes “Con mortuis in lingua mortua”. In fact, this picture is used by the composer to bring homage to Viktor Hartmann, this being the only painting that has no real correspondent in the dead Russian painter’s collection of works. From the catacombs we get to the witch, *Baba Yaga*, being in fact a clock that represents Baba Yaga’s hut who, in Slavonic literature leads to a negative character. The tour of Hartmann and Mussorgsky’s pictures achieves apotheosis with the Great Gate of Kiev. It was conceived by Hartmann for Tsar Alexander II in 1866, who had a narrow escape from an assassination attempt. Hartmann considered this picture his greatest achievement both architecturally and visually, although the structure was not built in the end.

Unfortunately only a few of Hartmann’s paintings still exist today:

- A sketch of theatre costumes for the ballet Trilby, Fig. 4
- Sandomierz Jew and the Jew in a fur cap, Fig. 5, Fig. 6
- The Parisian Catacombs, Fig. 7
- Baba Yaga’s hut, Fig. 8
- The Great Gate of Kiev, Fig. 9

Fig. 4



A sketch of some costumes for the ballet Trilby

Fig. 5



Sandomierz Jew

Fig. 6



Jew in a fur cap

Fig. 7



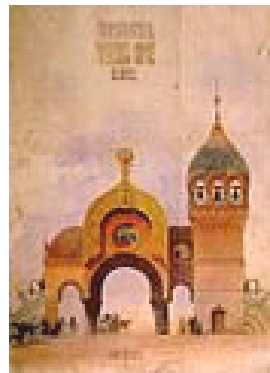
The Parisian Catacombs

Fig. 8



Baba Yaga's hut

Fig. 9



The Great Gate of Kiev

Synesthesia or coincidence? – a question that is very difficult to answer. Personally, I tend to believe that Mussorgsky's work has a synesthetic value due to its visual implications, being the composer's source of inspiration. The tour of the exhibition by the composer and the rendition of some of his late friend's paintings and sketches follow certain dynamic and stylistic coordinates, leading to a phenomenon of synesthesia that is poles apart from Scriabin's synesthesia.

Mussorgsky has the capacity to induce the listener to a complex synesthesia by means of his music so that each of us has the ability to see colours, even similar scenes and images.

Conclusions

The appearance of numerous types of synesthetic symbioses that appear both voluntarily and involuntarily, natively or under the influence of some external factors, raise a lot of questions both medically and evolutionary. Designing some performances with strong synesthetic influences (Al. Scriabin – Prometheus – The Poem of Fire, to Lady Gaga's cosmopolitan songs), or the making of some works of art that belong to Avant-garde and that concentrate sight, hearing, smell and touch lead to an archetype area that is still full of mystery.

The synesthetic syndrome, if we can call it that way, has infinite effects in the 20th century leading to the development of some domains, especially in arts. On the other hand, I tend to believe that in one way or another each of us benefits to a certain extent, from a synesthetic influence, depending on the circles we frequent. An eloquent example is the atmosphere that is created during the concerts of different artists held on stadiums, where music harmoniously interweaves with light, creating a particular state to each participant. The same thing can be said about the clubs or discos that are frequented by youngsters nowadays, where the show generated by sound and colour is the main attraction.

We are in the position to interact with different types of synesthesia, without realising or without knowing for sure what this means, what role it plays in our life and in what way it could influence our way of life.

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