

ARCHITECTURAL FEATURES WITHIN AUREL STROE'S ARCADES

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SUMMARY. Within the following study, we will make an attempt to present certain aspects regarding the interdisciplinary facets of Aurel Stroe's work, *Arcades*. The analysis will bare in mind multiple levels of connections between the architecture and the music; the matters that concern the composer's own aesthetic views, including an architectural approach towards the general structure of the work, as well as the significance of the special configuration of the orchestra and other musical methods used for conveying an architectural element into a sonorous edifice.

Keywords: music, architecture, arcades, Aurel Stroe, structural conception, Klangfarben, modal language, musical aesthetics

Written in 1962, Aurel Stroe's *Arcades* is one of his early works, which initially had a hard time breaking through due to an adverse ideological atmosphere², nevertheless, it was this piece that brought him national as well as international recognition as a composer. Naturally, the debut performance of the work had caused quite a stir within the musical circles of the time, and awakened a particular sort of interest, that led to the special request of the piece for the 1965 edition of the Warsaw Festival, alongside Ștefan Niculescu's *Symphony for 15 Instruments* as well as Tiberiu Olah's *Endless Column*.³

Arcades is the first piece of a cycle, entitled *Démarche musicale*, along with the following works: *Harmony* (1963), *Concert music for piano, brass instruments and percussion* (1964), *Time can only be conquered through time itself* (1965), *Laude I and II* (1966; 1968), *Canto I and II* (1967; 1971). *Arcades* is the only piece of the cycle that does not feature a probabilistic calculus, still it sets off the defining characteristics of the entire cycle: unusually redundant information, use of complementary rhythm and the realization of a global effect⁴.

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² Sandu-Dediu, Valentina, *Muzica românească între 1944-2000 (Romanian Music between 1944 and 2000)*, Editura Muzicală, București, 2002, p. 172

³ *idem*, p. 35

⁴ Georgescu, Corneliu Dan, *Canto II by Aurel Stroe*, in: *Muzica*, issue no. 11/1972, p. 14

The design of the work is mainly determined by the aesthetic principles of the composer Aurel Stroe. This approach is given away by the title of the work itself, which addresses the idea of a sole structure, applied within multiple directions of art, namely architecture and music in this instance. In this case, the outline of the piece or the outer layer is determined from the perspective of the material of the art as well as its means of expression, which in this particular case in point represents a musical transcription of an idea generated within the sphere of architecture.

Arcades opens up a completely new vision on musical time, of which Corneliu Dan Georgescu states in an analysis regarding Anatol Vieru's Hourglass, that: "It is the same time immobilization by way of the lack of perceivable musical events and orchestral colour amalgamation within a global effect which a series of works, such as Aurel Stroe's *Arcades* and *Laude* suggest."⁵ The temporal aspect creates suggestions regarding the architectural space, by way of special methods of composition; the temporal immobility evokes the stability of Gothic architectural arcades, representative of the transcendental sublime category. Consequently, our arcades also symbolize this category, the sublime having been suggested by the musical construction itself, while the transcendental is depicted through the allusion of religion, as well as divine space of the organ sonority, entrusted with the first interlude of the piece. The function of this interlude is to introduce the audience in the atmosphere of the sacred, of contemplating beneath the protective arcades of the sound edifice. We also encounter other rhetorical means on a symbolic level within *Arcades*, since the entire work is a musical symbol of architectural arcades, as well as other means on the level of comparison, in the case of the variations of formal concepts.

Returning to the category of the sublime it is highly interesting that although it approaches the axes of the beautiful and not of the tragic⁶, it does not reveal a beauty in the common sense of the word. Here are the words of the composer himself:

*"I have never thought to make a beautiful creation, either in 'Arcades,' or 'Canto II' ", still, "A poor creation is equal to an insufficiently simplified, "bleached" work, the notions of beauty and ugly having, in a generative aesthetic vision [in this case music reduced to the essential], the value of superior of poor depending on the level of revealing a mother-form"*⁷.

The work, consisting out of eight musical arcades (and two interludes), is constructed by means of sound resources, achieved through the pitch, value and general intensity of notes, following the composer Wilhelm Berger's "modes

⁵ Georgescu, Corneliu Dan, *Anatol Vieru Clepsidra* (Anatol Vieru's Hourglass) in: *Muzica*, issue no. 7/1970, p. 22

⁶ According to the aesthetical system found in: Angi, Ștefan, *Prelegeri de estetică muzicală* (*Lectures on Musical Aesthetics*), Editura Universității din Oradea, 2004

⁷ Georgescu, Corneliu Dan, *Canto II de Aurel Stroe*, (*Aurel Stroe's Canto II*), in: *Muzica*, no. 11/1971, p. 16

and proportions" theory⁸, to whom he dedicated the work. The theory is based on the application of the Fibonacci number⁹ algorithm to a melodic pattern, which then turns into a geometric one by way of branching it out to different groups of instruments. Stroe's preoccupation with mathematical application in music comes from his having a keen interest in mathematical science, a field that he studied – for three years – while at university.

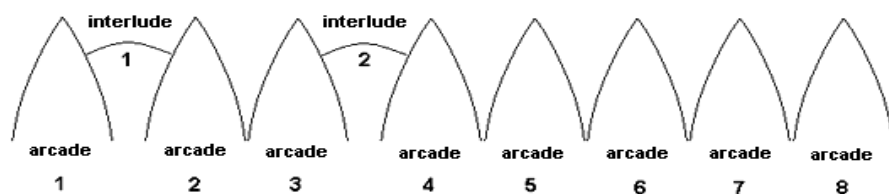
An Architectural Approach towards the General Structure of *Arcades*

It is often hard to determine the form as well as the genre of the modern musical creations, for they do not meet the requirements of a "classical" form analysis. The genre of the piece is certainly a symphonic one, for it requires the use of an orchestral ensemble, in which we can encounter solo as well as chamber music elements, which all lead to instrumental solo and chamber music genres. Since the piece has multiple parts, a multi-movement (ten-movement) genre reveals itself, one that however cannot be included in a certain widely known typology.

From the form point of view, we observe a thought process structured on the variation of a "theme", or even more precisely, the repetition and variation of a basic construction principle. The theme, presented in the first part, is followed by nine variations, variations that occur at the level of the orchestra, of the scale, tempo, register, having a reasonably free development, which falls under the category of free variations.

Given the special *Ars poetica* of the work, an architecture-friendly one, we could imagine the eight arcades and two interludes of the piece in the following manner:

Fig. 1



Aurel Stroe's *Arcades* – a visual interpretation of the parts

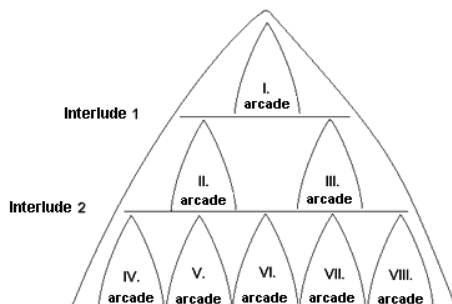
This macrostructure is based upon the golden numbers: the interludes group the arcades into groups of 1, 2 and 5; which numbers are all part of the Fibonacci sequence.

⁸ Șurianu, Horia, *Aurel Stroe I*, in: *Muzica*, issue no. 1/2002, p. 42

⁹ Fibonacci numbers are a sequence of numbers starting with 0, 1, 1 while each remaining number is the sum of the previous two, therefore the sequence begins with: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89...

However, if we lay this horizontal design on a vertical scale, in which the interludes come across as separators, the 8 arcades form the great arcade of the entire work, a visual shape that resembles a gothic window:

Fig. 2

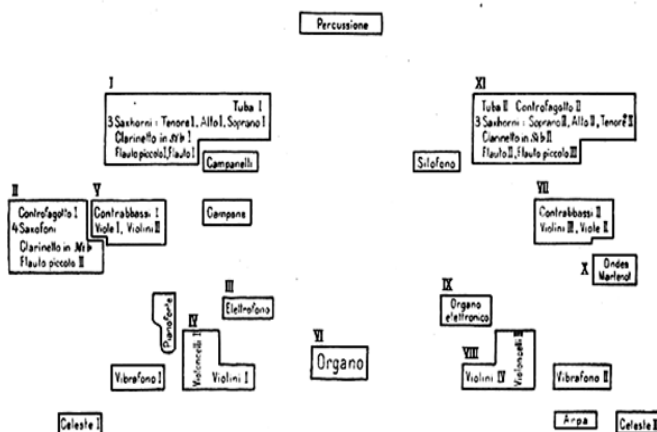


The great arcade of the entire work

Another architectural feature: space used within the layout of instrumental groups

The orchestra required here is a large, Romantic one, also incorporating 3 Ondes Martenot, an electronic organ, as well as a monadic electrophone. Still, the placing of the instrumental groups on stage is quite extraordinary. The instrumental groups are deliberately configured in space, according to the mathematical and geometrical proportions used in the construction of gothic arcades¹⁰. These groups are placed in such a way that effortlessly creates a natural stereophony:

Fig. 3



The spatial configuration of the instrumental groups

¹⁰ Angi, Ștefan, *op. cit.*, vol. II, tom I, p. 44

From the point of view of the orchestration, there is a contrast between the orchestral approaches regarding the main “building materials”: the arcades being more orchestral, while the interludes having more of a solo character (with possible chamber accompaniment).

Throughout the performance, one can notice a tendency to reduce the orchestral ensemble, in the following manner: all the 11 groups play within the first three arcades, in arcades 4 and 5 the extremes of the lower and higher registers are removed (groups I and XI – incorporating piccolos, flutes, clarinets and tubas). The last two arcades lessen even more from an orchestral standpoint, arcade 7 being played only by groups I-III-VI-IX-XI (their placement forms a “ground” arcade), while the last arcade resembles the interludes, since it has a very small ensemble, made up by groups III and IX (resembling the two pillars of an arch). This constant reduction of the orchestral apparatus could be a metaphor of architectural arcades seen in perspective, which appear to be getting smaller by each individual arcade, even though in reality they are the same size.

Architecture Achieved by Musical Means

We will next attempt a brief analysis on the musical construction of the arcades. As a first step, we will render the definition of an architectural *arcade*, in order to shed some light on the notion itself. Consequently, the arcade is a series of arches carried by columns or piers, a passageway between arches and a solid wall, or a covered walkway that provides access to adjacent shops. An arcade that supports a wall, a roof, or an entablature gains enough strength from lateral thrusts that each individual arch exerts against the next to carry tremendous weight loads and to stretch for great distances¹¹. Here is an example of an arcade, belonging to the gothic period:

Fig. 4



Amiens Cathedral (cca. 1220-1236), nave and side arcades

¹¹ www.britannica.com

We have chosen to illustrate the architectural arcade with a gothic arcade, for within the score of the *Arcades*, the shape of musical arcades as well as the short note value of the sound pinnacle suggests such a form. In Stroe's music, the arcades are built through an ascending musical axes, starting from the grave register and taken to climax in the higher one. This peak determines the ensuing melodic line, an inverted one, which leads back to the grave register.

Ex. 1

Arcade I (groups IX, X, XI) – first measures: base of the arcade

IX [ORGANO ELETTRONICO
X [ONDES MARTENOT
XI [FLAUTO PICCOLO III
FLAUTO II
CLARINETTO in Si b II
SAXHORN II
TUBA II
CONTROFAGOTTO II

1 2 3 4

Ex. 2

Arcade I (group VI) – sound pinnacle: the peak of the arcade

VI [Cel. I
Vibraf. I
Campi II
Organo
Cel. II
Vibraf. II
Sil.

Ex. 3

Arcade I (groups IX, X, XI) – ending: base of the arcade

IX [Org. el.
X [On. Mart.
XI [Saxhorn II
Tuba II
Cfg. II

The first arcade is delegated to the eleven groups of instruments, which carry alternately the “melody” of the arcade, depending on the register of each instrument – the “base” of the arcade is represented by sounds made by grave instruments, while the higher ones depict the “top”. Consequently, musical sonority – registers used – suggests architectural spatiality.

Leaps characterize the simple melodic passage assigned to each instrument. The global sonority of the ensemble however depicts gradual ascending and descending steps (major and minor seconds) as well as small leaps (usually by way of minor thirds).

Taken as a whole, the instruments accomplish a distinct kind of Klangfarben melody the goal of which is to annul the individuality of participants, in order to achieve a global effect, a single “instrument”, a single continuous musical “arcade”. The composer himself indicated to following method of attack: the take over of the melody from one instrument to the other should be accomplished with minimal interruption; the individual sound should be unperceivable within the context of the orchestra¹², while execution should follow the *molto legato* approach. (At times, the composer would ask for a moderate vibrato or even a more intense one, rarely highlighting certain instruments. In the second part of the work new indications regarding execution occur, such as flageolet tones at the string section, tremolo and flutter-tonguing in the wind section.)

If we take into account each instrument separately, we can also observe the simplicity of rhythm, while at a global level, this becomes complementary.

The construction of the arcades depicts three different typologies – as opposed to a single one in field of architecture –, the first of which is a complete arcade, a positive one (which points to the top), method used also in the construction of parts number 1, 2, 3, 7 and 8, as well as in the second interlude. As far as the remaining parts are concerned, the melodic profile and the arcades themselves as such, have the following shapes:

negative arcade

(parts 5, 6)



superposed
positive and negative
arcade (part 4)



semi arcade

(interlude 1)



¹² Indications from the beginning of the score: Stroe, Aurel, *Arcade (Arcades)*, Editura Muzicală, București, 1965

From the standpoint of their construction, the interludes are based on the principle of musical building of the arcades, with the same ascending and descending gradual movement, the difference being that this gradual movement is entrusted to a single instrument, the solo one:

Ex. 4

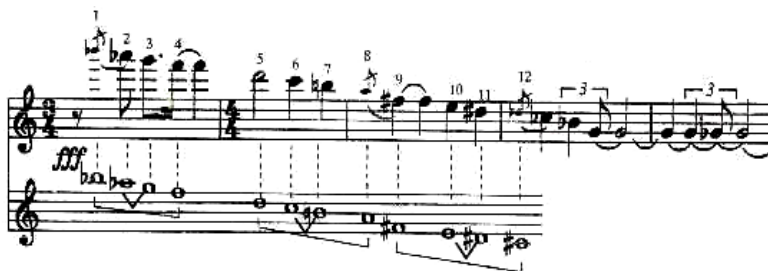
Interlude I – first measures



In addition, the rhythm is much more animate and complex, suggesting a quasi-rubato folk character. The grouping of the 12 notes of the sequence in Dorian tetra chords at the beginning, juxtaposed three times by way of a minor third interval also represents the realm of modal scales¹³:

Ex. 5

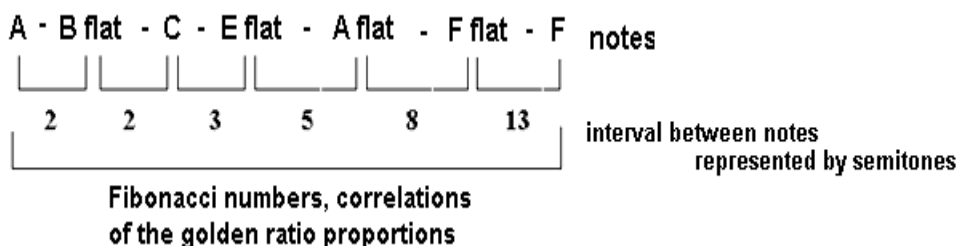
The use of Dorian tetrachords in the first interlude



The means of constructing the **melody** of the arcades as well as interludes are similar. Subsequently, we are about to decipher the tonal language of them, by way of illustrating the modal scales that can be found within the work:

¹³ Rîpă, Constantin, *Teoria superioară a muzicii (Superior Music Theory)*, vol. I, Cluj-Napoca, Ed. MediaMusica, 2001, p. 259

- 1) Modal scale attained through the tone-semitone alternation (ascending)
ex. B flat – C – D flat – E flat – F – G – A flat – A (“arcade” 2)
- 2) Modal scale attained out of thirds (descending)
ex. C – A – F sharp – E flat – C (“arcade” 6)
- 3) Modal scale attained through thirds and minor seconds (descending)
ex. C – G sharp – F sharp – D – C (“arcade” 5)
- 4) Modal scale of the “golden ratio” (ascending):



- 5) Sequence of 12 notes
 - a) complete (see example on *Interlude I*)
 - b) incomplete (“arcade” no. 7, note A is missing)

Beside the use of the 12 note sequence (complete and incomplete), there is a remarkable effervescence of the modal musical language utilized within this piece. We cannot help but ask ourselves if this feature could possibly be another reference to artistic languages in the past, perhaps to the arcades of medieval architecture. Moreover, the piece makes use of the main compositional techniques of medieval times: within *Interlude I* as well as in the final part of the work we encounter monody, while the second interlude presents itself under the form of a melody (harp) supported by a pedal (double bass and tam-tams).

If the last paragraph is a subjective view upon a musical material, the transference of the mathematical realm (Fibonacci numbers), the crucial factor of space in determining the orchestral configuration which leads to a distinctive overall sonority, the task to building arcades by way of musical means (use of registers, complementary rhythm, legato in articulation) however, are genuine testaments to the intricate relationship this piece has with architecture. Since Goethe is often quoted to have called architecture “frozen music”, using the same analogy we safely state that the Aurel Stroe’s *Arcades* represent the art of building through sound, “flowing architecture”.

(Translated from Romanian by Köpeczi Juliánna Erika)

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