# Donatoni: a critical re-appraisal of *Quartetto III*

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## Abstract

This paper provides an analysis of *Quartetto III*, a work composed by the Italian musician Franco Donatoni that has often been underrated and has been considered ephemeral (Lanza, 2014, p. 135, pp. 231-240) by some Italian musicologists. It is Donatoni's third Quartet: unlike the other quartets, it was produced, under the guide of Marino Zuccheri, at the "Studio di Fonologia" in Milan, by using only electronic instruments.

We've studied the historical, musical, and technological context in which this work was conceived by using different historical sources such as texts for broadcasting, documents, letters from the archives of the Studio di Fonologia as well as notes and documents preserved at Paul Sacher Stiftung. These documents offer an interesting perspective into historical analyses, considering that the Studio di Fonologia musicale of Radiotelevisione Italiana, like similar studios in Europe and America, was the result of a meeting of music and new opportunities of analyses and treatment of sound.

This paper also highlights some specific ideas of *Quartetto III*, the composer's originality and importance not only in his work, but also in the production of the Studio di Fonologia and in the history of electroacoustic music. We have analysed *Quartetto III* under different points of view, by using stereophonic and quadraphonic versions of this work-recording "E018" and "Q002" respectively.

In particular, we have pointed out the relationship between ministructure and macroform, underlining the progressive aggregation process, from "Elements" to "Groups" and "Columns". This objective has been achieved by means of:

a) a partial Genetic analyses by using PWGL;
b) a Listening Analysis, by following different musicological approaches: Smalley and the spectro-morphology; Roy's Functional Analysis; Temporal Semiotic Unit (M.I.M.); Sloboda's, and McAdams' Perceptive and Cognitive Studies.

This approach can give us some information about the macrostructure: *Quartetto III*, that lasts about 5 minutes, is structured in panels which are sections with different metronomes, but with an internal coherence of articulation and musical development. Much attention has been paid to the structural and poetical use of quadraphonic space: *Quartetto III* seems to pave the way for the later electroacoustic works because of the use of spatial figures and "structured" electronic gestures. The historical recalling of the 60s, when *Quartetto III* was conceived at the Studio di Fonologia, has shown the very high level of the Italian research carried out at the Studio.

## 1. Some thoughts about Donatoni's quartets

Donatoni was a prolific author of the Italian avant-gardes in the post-war. He was able to absorb different compositional techniques, from the post-Webern experience to aleatoric improvisation (for Grilly, 1960), up to the elimination of each intentionality in the constructive program, following John Cage's example (*Quartetto IV*, 1963), and Donatoni's example (*Puppenspiel II*, 1966).

What particularly strikes the listener is the wide repertoire of quartets written by the composer: Béla Bartók's influence (Montecchi, 1990, pp. 77-109) and his fourth quartet for strings seem to mark the production of the Italian composer also in a "quantitative" way.

Donatoni's second quartet (1958) that is sometimes indicated as a structuralist piece, is characterized by held sounds and pointillistic interventions, with an elaboration of musical fragments created by the use of a pendulum (Restagno, 1990, pp. 17-18, p. 20). Some similarities can be pointed out by referring to the quartet *La souris sans sourire* dedicated to Ensemble Inter Contemporain quartet. This composition shows a division in 7+1+7 panels (Bataloni, n.d.); in *Quartetto III* there are seven sections with internal coherence and autonomous development, with alternate homorythmic sections and more clearly counterpointistic sections. The metronomes used in *La souris sans sourire* are similar to the metronomes used in *Quartetto III*, and clearly mark the differences among panels.

After the first period of the 50s, there was the "season of indeterminacy". The *Fourth Quartet* (1963) belonged to this period: it was built by following the titles of a newspaper published on the execution day of the work.

In the quartet called *The Heart's Eye* (1979) the compositional matter was originated by using the name of Amati's Strings Quartet: the original material occupies the central measure (number 131). Donatoni first wrote this measure and then created two sections, which are "specular" and "complementary". It is unique that a central rest, which is placed in the middle of the track, marks the division in two halves: it is the only audible rest, because the other rest works as synchronous between the four columns.

Other works are divided into two sections (Restagno, 1990, p. 36): *Duo pour Bruno* with a division in 13+1+13 sections and *Le ruisseau sur l'escalier* divided in 130+1+130 measures.

*Quartetto III* is similarly divided into two sections: in the middle of the piece, a rest divides the work into two equal parts. *Quartetto III* is a work that can be placed between the first period of the '50s and a second period, influenced by John Cage: it is a work that adheres to structuralism but it paves the way for some tendencies of the composer, such as a certain "self-denial" (Weid von der, 2002, p. 220): sometimes the compositional activities seem to be reduced to combinatorial techniques, automatic processes for sound material transformation. One funny fact is the shape of the sonogram of *Quartetto III* that is similar to a reversed hourglass: this shape can also be found, as pointed out by Mattietti (1996, p. 38), in the work *Gretchen am Spinnrade* (from *Rhapsody for Soprano, Contralto and orchestra*, 1994).

## 2. The musical and historical context of the post-war period

In the 1950s, while Boulez, Stockhausen and Berio were investigating electronic music and total serialism, Donatoni was writing under some strong influence by Bartok and Petrassi. In 1953 Donatoni met Bruno Maderna that introduced him to Webern's music and the European

Avant-garde. Donatoni and Maderna will be two of the composers that will work at the Studio di Fonologia in Milan during the '60s. 1953 and 1954 were important years: Donatoni not only met Bruno Maderna, that played an important role both for the diffusion of the European Avant-garde music and the birth of RAI Studio di Fonologia, but in 1954 he also participated in Darmstadt Courses: he came to the decision to go beyond Bartok's language and Petrassi's poetry and chose the dodecaphonic techniques.

In a letter sent by Bruno Maderna to Luciano Berio, dated on 13th November, 1954, we can read:

> Dear Berio,
> I came to the radio station on Saturday morning at 12 a.m., but you weren't there. At any rate, I'll be in Milan on Wednesday morning – I'll come and see you, I feel enthusiastic about working with you on *musique concrète* and *Elektronische Klangerzeugung*. Once in Milan, I'll tell you the reason why I would really love such cooperation. I hope we will be together at last. (De Benedictis, 2000, p. 191)

Electronic music developed with the support of the European radio broadcast networks: radio stations became new aesthetic and technological crossroads, the starting point for new forms of communication. The Italian radio station witnessed a radical change of attitude: electronic music showed radiophonic production a new way of development (Pousseur, 1976, p. 52); radio stations used magnetophones (Gentilucci, 1972, p. 60) and speakers not only to reproduce, but also to produce new music; radio could also reach a wider public (Vidolin, 2009, p. 25).

The name of Franco Donatoni appeared for the first time in a letter (De Benedictis, 2000, pp. 177-183) dated on 27th June 1960, sent by a stranger (Renzo Dell'Oglio?) to Alberto Mantelli, director of RAI3:

> Dear Mr. Mantelli,
> I'm pleased to inform you that I got in touch with the young composers from Milan, we talked about the opportunity they were given by Radiotelevisione italiana to work at the Studio di Fonologia. They were all really interested in participating in the activity of the Studio and looked forward to working there.
> They would be very grateful to Mr Razzi and to you for the opportunities of working with new technologies and to have new experiences in a totally new field;
> They all agreed that RAI should be the only owner of the electronic composition they might make at the studio. The composers I wrote you about are called: Niccolo' Castiglioni; Aldo Clementi; Angelo Paccagnini; Camillo Togni; Franco Donatoni; Giacomo Manzoni.
> As you can see, they are the most promising youngsters in the world of modern music. I really believe, my dear director, that if this project came into being, it would be a conquest for the future of the studio. (De Benedictis, 2000, p. 191)

Yet when Franco Donatoni started working at the studio, the golden age of collective experimental works at Studio di Fonologia had almost come to an end. Earlier works were great thanks to imagination and creative strength of those composers that were able to forge masterworks with obsolete technological instruments (De Benedictis, 2000, pp. 177-183).

## 3. Structuralism or reactionary attack?

Germany and Italy, thanks to a new cultural policy and the creation of new music, tried to get over the sense of bewilderment brought about by the damages of the Second World War and Nazism, that made Adorno (1967, p. 30) say: "No poetry after Auschwitz". After 1945, music

couldn't be a play in which everyone could take shelter; language couldn't be mass language because of the distance between intellectuals and masses (Picard, 1947, p. 40). In this context, Structuralism seems to be the latest way of expression:

> […] Structuralism mimed the gesture of language. They were the voiced gestures of a dumb. People that had listened to the world had been rewarded with being left speechless, as only the deaf would have been allowed to speak the language of the world. It seems that Structuralism is the latest linguistic tension, the extreme one.[1] (Donatoni, 1970, p. 15)

Some years later, Donatoni (1970, pp. 12-13; p. 15; p. 17) said that, in those years, he had had some vaguely reactionary thoughts: "I felt obscurely that music was in the biggest danger, its survival as a form of art was questioned: I could feel this obscurely and unconsciously. I see the distressed thought of that time as the warnings of a reactionary attack."[2]

## 4. The end of the dictatorship of sound material?

In 1957 and 1958, electronic music studios became a widespread reality in Europe and America (Bennet, 1990). The electronic works produced in Paris and Cologne had some common features, particularly the emancipation of noise and timbre. Yet there were some differences between the French and German currents of thoughts: German composers used electronic instruments with continuity as against the development of post-Webernism; they avoided Russolo's and Varèse's empiricism as well as that "urgent approach with the existing sound materials" (Gentilucci, 1972, p. 3), typical of the French school.

Amongst the two schools there were some basic substantial differences: in the *musique concrète* composers started from existing sound materials to get a final musical result through an empirical process: in Cologne, electronic music was in continuity with serial music: with the advent of electronic music, German composer extended all serial principles to microstructure, to the composition of each sound. Instrumental sounds had already a predetermined spectrum, depending on the components and the execution techniques. Some composers such as Stockhausen (*Studie I* and *II*) and Donatoni (*Quartetto III*) were against the dictatorship of sound material. In *Studie I*, for the first time, complete compositional control was achieved, even over timbre. The ideal result was to produce each sound synthetically and thus separately in its details: "The conscious organization of music extends to the micro-acoustic sphere of the sound material itself." (Stockhausen, 1963, pp. 22-23) Donatoni and Stockhausen tried to achieve a new relationship between form and material: between acoustic microstructures and musical macrostructures (Pousseur, 1976, p. 47).

Donatoni (1970, p. 13) told about the need to build his own acoustic material so as to follow his passion for thinking on sounds, his instinct to mediate every primary emotion in a speculative way. So even if Donatoni declared "My distance from Stockhausen, despite my admiration, is that he is always perfecting his ego and his music, while I want to destroy both of them". We believe there are many similarities between Donatoni's work and Stockhausen's early electronic pieces: their works are both characterized by assent to Structuralism, the

[1] "[…] Lo strutturalismo mimava il gesto del linguaggio. Erano i gesti sonori di un ammutolito […]. Coloro che avevano ascoltato il mondo erano stati ricompensati con l'ammutolimento, poiché solo ai sordi sarebbe stato concesso di continuare a parlare il linguaggio del mondo. Lo strutturalismo è l'ultima tensione linguistica, quella

[2] "Oscuramente avvertivo che la musica correva il massimo dei pericoli, che veniva messo in dubbio la sua sopravvivenza come arte: lo avvertivo oscuramente e incoscientemente. Riconosco nel pensiero turbato di quel tempo i sintomi che spingono all'attentato reazionario." Translation by Massimo Avantaggiato.

recurrence of certain numbers in formal subdivision, in the use of dynamics and in other musical parameters.

## 5. Electronic music as "parametric music"

Donatoni was aware that "sound material could also be the singing of a bird". The singing of a bird cannot be notated, but it could be the starting material for further electroacoustic elaboration"; Donatoni (inedito), by means of this example, explained how the "waste material" can be directly used by the composer. Donatoni's (1961a) refusal of "pre-modelled sound", led him to think about the nature of sound and its features.

The production of sound, the composition of sound implied a clear, precise definition of every quality and parameter of a sound; that's why we talk about parametric music. The technologies of the Studio di Fonologia in Milan, even if not state-of-the-art technologies, allowed the composer to work on all the following sound parameters:

1) Frequencies: Donatoni used 9 oscillators for generating sinusoidal sounds (Novati, 2009, p. 54): Sounds similar to noise were generated by using white noise generators (De Poli, 1983);
2) Intensity / Timber: intensity was controlled by using a voltmeter. Intensity modification allowed to change and modify sound spectra;
3) Duration: the duration of sound event is determined by measuring the length of ribbon: 38,1 centimetres in Rai Studio di Fonologia correspond to one second of sound;
4) Phase: Ring Modulation allows the multiplication of two sinusoids: the result is a signal composed by two cosinusoids of different phase (Boulanger, 2000, p. 370);
5) Effects: the composer evaluated the sound results coming from the application of echo chamber, using effects (Meyer-Eppler, 1956) in a structural way;
6) Spatial Localization: Donatoni arranged signals through four different speakers, creating four different "columns".

Yet Donatoni considered himself inexperienced and decided to limit his action field by using only the following instruments: nine oscillators (Novati, 2009, p. 53); a band-pass filter; a white noise generator; an echo chamber; a ring modulator (balanced modulator) and the usual recording instruments available at RAI TV (tape recorder with a variable speed (Donatoni, 1961b, p. 16); mixer).

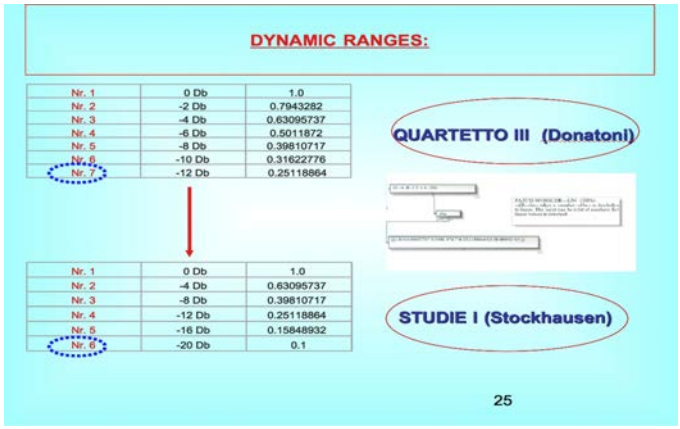



**Figure 1:** Dynamic ranges: comparison between Donatoni's *Quartetto III* and Stockhausen's *Studie I*.

## 6. The "leavening of the material"

Donatoni, talking about his activity as a composer, pointed out the relationship between sound material and compositional techniques: "the compositional technique, in its mechanical function, is placed at an intermediate level between sound material and musical product; the compositional techniques need the presence of qualified and well-characterized materials". Yet,

> the features of sound material […] are considered as the result of a decisional process […]. The problem of the position of sound material is completely secondary. As a result we can say that the reversing relationship is completely apparent: the activities of techniques tend to the leavening of the sound material […]. (Donatoni, 1970, p. 17).

A question arises: what is the qualified material Donatoni talked about? Donatoni started from the definition of a "frequency scale" (what is known in Italian as *scala delle frequenze*). This initial sound material offers many other transformations possibilities. The frequency scale subdivides the octave in constant intervals (in decimal 1,05): this allows dividing the octave in 14 frequencies.

A typical structuralist assent consisted in creating a new kind of temperament: the octave was divided into intervals which were shorter or longer than a semitone: this approach was common to many composers of the period such as Roman Vlad (*Ricercare elettronico*, 1961, 6'20") and Camillo Togni (*Recitativo per nastro magnetico*, 4') and other composers that worked at the Studio di Fonologia in the Sixties: these similarities underline an aesthetical common orientation.

Yet other composers belonging to Cologne Studio, such as Karlheinz Stockhausen, had already tried to experience a different octave subdivision. In the second *Studie*, the German composer used 81 frequencies starting from a pivot frequency of 100 Hz to a frequency of 17.247 Hz. From this frequency, Stockhausen obtained a scale of 80 subsequent frequencies, a scale of 25 identical intervals, whereas the frequency rate in equal temperament is the twelfth root of two. Stockhausen employed intervals that were wider than a semitone, with a frequency rate that was the twenty-fifth root of five: each subsequent frequency was obtained by multiplying the previous one by 1.066494. Five is a recurring number in the piece: 5 notes make up a sequence; 5 sequences make up a set or *Sequenzgruppe*. Also in *Studie II*, Stockhausen used a "Frequency scale" while *Studie I*, his previous work, was based on a series: In *Studie I*, sets of six values determined the entire work. Pitches were drawn from a series of intervals: a falling minor tenth, rising major third, falling minor sixth, rising minor tenth, and falling major third (Maconie, 2005, pp. 130-131).

In Donatoni's *Quartetto III*, the scale of frequencies is composed by dividing the octave in intervals shorter than a semitone: in decimal equal to (1.05). The frequencies composing the s*cala delle frequenze* are grouped in classes of seven, modifying the interval between a frequency and another, following an arithmetic series (0, 1, 2, 4). From this process, Donatoni obtained 4 different groups: the first group is composed by frequencies being multiple of one; the second group is composed by frequencies being multiple of two; the third group is composed by frequencies being multiple of three; the fourth group is composed by frequencies being multiple of four. The first group, for example, is made up by 26 x 7 frequencies for a total of 182 frequencies.

In each group every frequency became progenitor of other series of frequencies: Donatoni planned the possibilities to re-read, making rotations, the elements of seven frequencies.

Every formation of seven sounds is perceived as a "harmonic and timbral structure" that produces a different "blend of colour".

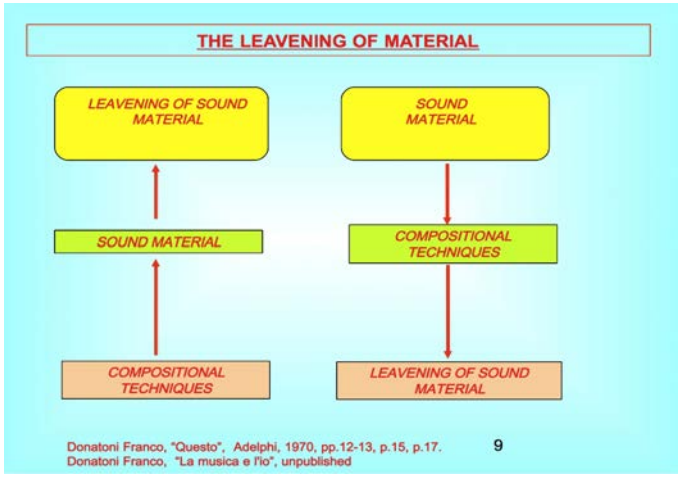



**Figure 2:** Relationship between compositional techniques and initial sound material: the compositional techniques produce the "leavening of the material". However, the same sound material offers new opportunities of development.

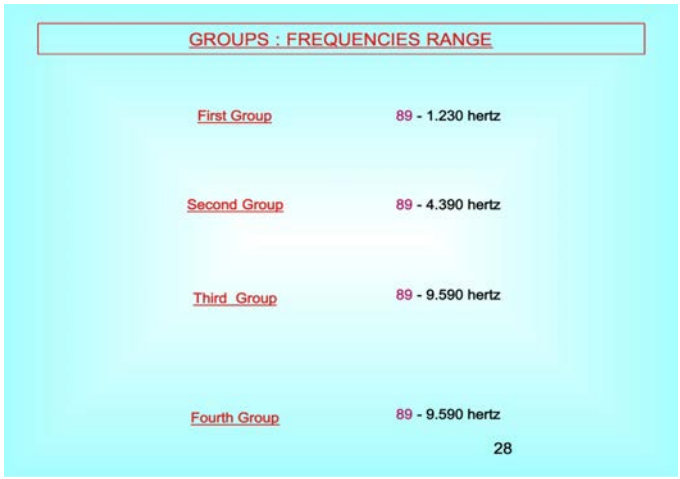



**Figure 3:** The four groups: the pivot frequency – 89 Hertz – is the same in all the groups

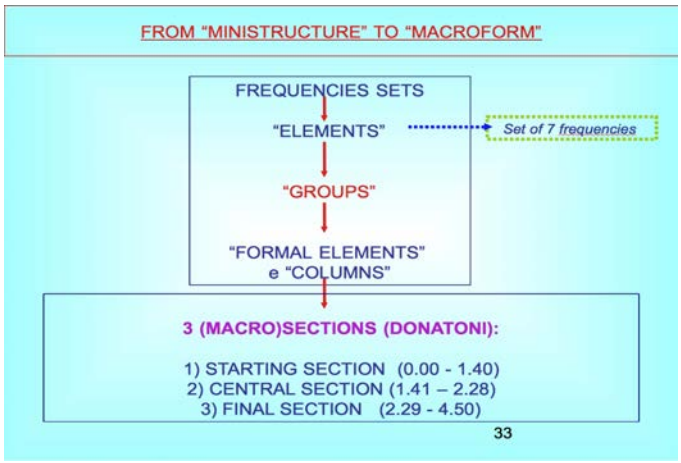
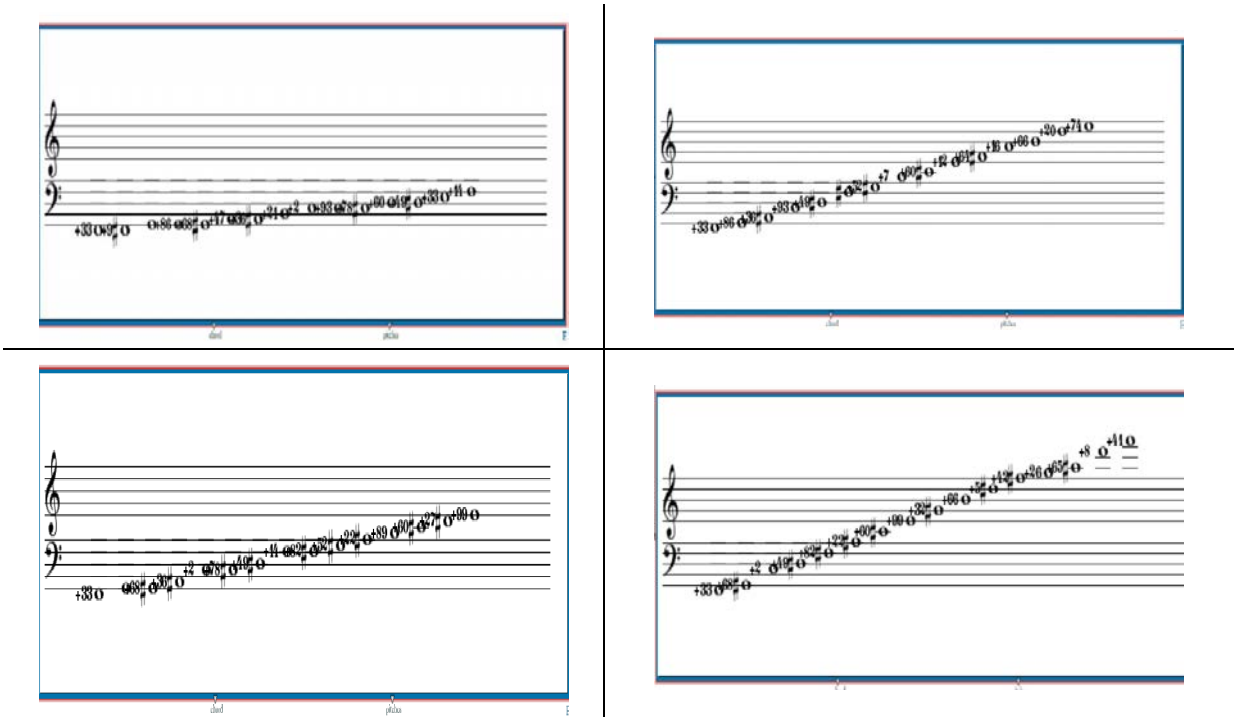



**Figure 4:** Representation of the progressive process of aggregation of the frequencies from the "Frequencies Scale" to Elements, Groups and Columns.



**Figures 5-8:** the first 14 frequencies inside each Group: the progressive growing of intervals between the frequencies is pointed out: from the first to the fourth group, the "original series" is modified by producing new intervals.

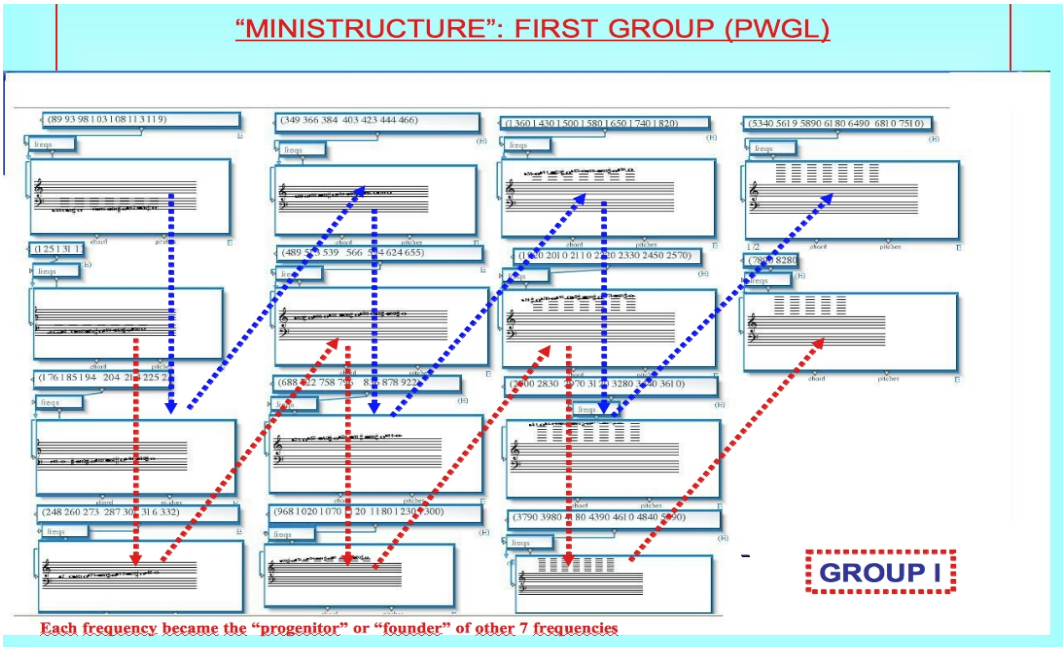



**Figure 9:** First Group and his eighth transpositions.

We can also highlight some compositional processes of *Quartetto III*:

**1) Transposition:** It refers to the process, or operation, of moving a collection of pitches up or down in pitch by a constant interval. For example «formal elements A», placed in the final section, are made up by simple elements and by its transpositions (diminished fifth and inferior fourth, ring modulated elements).

**2) Reduction of the duration of notes/rests:** the central part of the work, section c) is build up superimposing the following formal elements: the first and latest of columns 1A; 2A; 3A; 4A. These elements are made closer through a reduction of 50% of intermediate rests.

**3) Accumulation and condensation:** the term "accumulation", curiously, is never used by the composer for this piece, while it's applied to his acoustic works. But these processes are clear through listening analysis. Accumulation process can be seen in 1'45": from 3'53" to 3'57" and in the final coda from 4'50" to 4'53". Accumulation processes are coupled with rotation of pitches; this process emphasizes the overall process of accumulation on the 4 channels (quadraphonic version). Sometimes the process of accumulation is outlined by the use of echo (3'26"-3'31").

| **Analysis techniques** | |
|---|---|
| **Vande Gorne (*Figures d'Espace*)** | *Accumulation*; *Envahissement* |
| **Smalley (Spectromorhpology)** | Unidirectional motion (first section); multidirectional motion (final section) |
| **M.I.M. (Temporal Semiotic Units)** | Chaotic (followed by suspension/ suspending/ questioning) |
| **Roy, 2003 (Functional Analyses: Process)** | Intensification/Accumulation (followed by Attenuation/Dispersion) |
| **Bayle** | *Le murmure/Le cri* |

**Figure 10:** indication of accumulation processes, according to various analysis techniques

**4) Reduction, progressive dispersion, rarefaction:** generally these processes follow accumulation processes. This process is clearly remarkable in the ending/final Coda, where the material is composed by superimposition of "formal column B".

**5) Superimposition:** it is the case of the so-called "tensions": Column C has the function to add some "tensions", by using crescendo or diminuendo. Donatoni obtained these "tensions" by making some quadruples superimposition at variable speed.

**6) Integral transposition of fragments:** Donatoni talked about some "modulated elements", which were formed by low frequencies obtained by starting from seven elements of every section of the fourth group, lowered by 2 octaves and a major seventh (e.g. 4'31"-column 1).

The use of these techniques indicates a compositional work, which cannot be considered "ephemeral".

## 7. Coordination of several analyses techniques

*Quartetto III* was produced in two different "coeval" versions: the first version, stereophonic, was recorded on ribbon E018; the second version, quadraphonic, was, instead, recorded on the ribbon Q002 with other tracks by other composers (Novati, 2009, pp. 246-248). The two available versions were both recorded in April and May 1961 and were both preserved at Studio di Fonologia. The differences between the two versions were clear during our listening sessions: the quadraphonic version allowed us to appreciate some spatial movement thought by the composer, some movements that we couldn't hear in the stereophonic version.

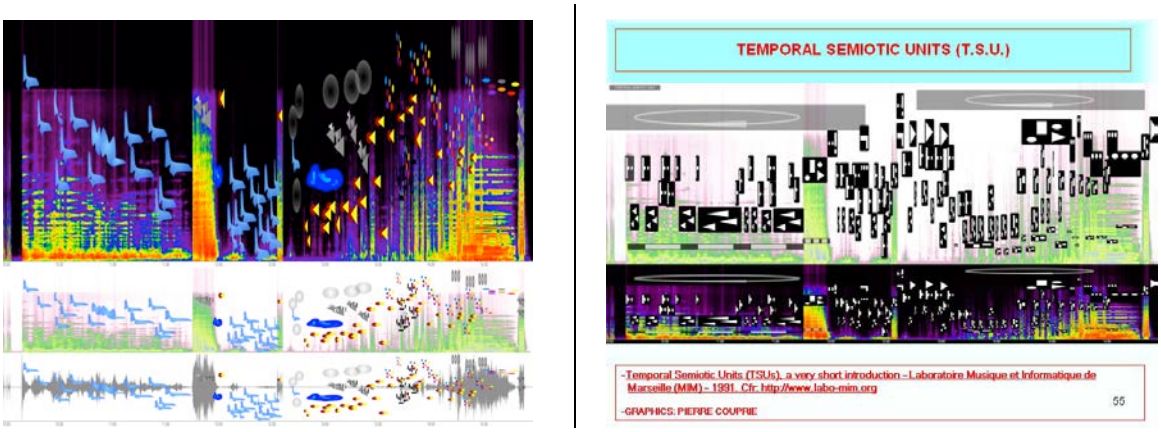
Analysing the 4 different columns enabled us to have more information about:

- the artisan work of the composer in the using of ribbons and in the synchronous created amongst the various columns and
- the polyphonic structure of the work.

Thanks to the genetic analyses you can also have a clearer idea of the pitches employed in the composition.

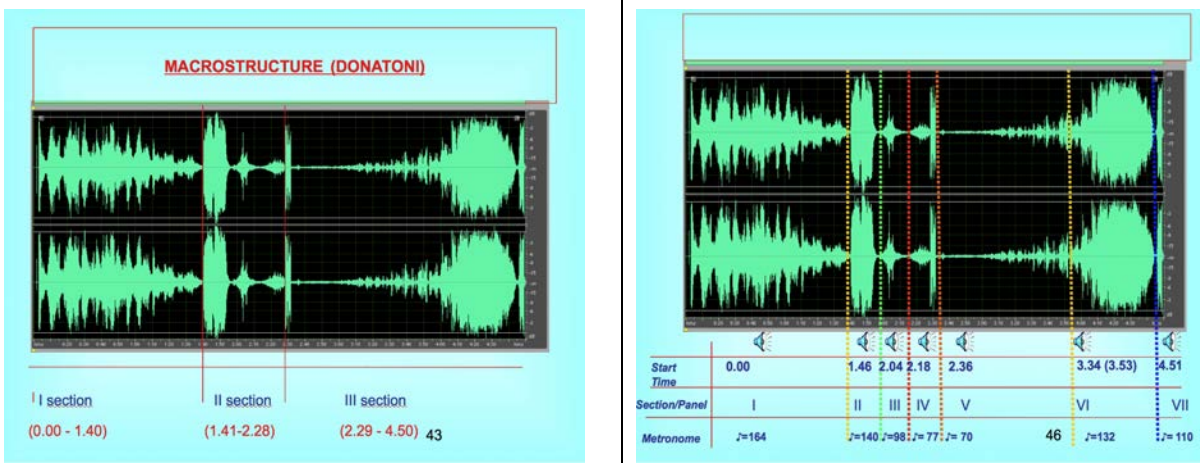
By reading the acoustic surfaces (Zattra, 2005, p. 3), we tried to give some coherent images (McAdams, Bregman, 1979), point out some sound objects by following the vocabulary of the composer or other techniques (Bayle, 2000), and finding some structural relationships and overall meanings (Temporal Semiotic Units). Using Smalley's and Spectromorphology (1986) analyses techniques we found different categories of gestures and texture and analysed different species of movement and growth processes of sound. The bidirectional /multidirectional movement prevails in the second part of the track (2'23"); unidirectional movement prevails in the first part (0'00''-2'23'').

For each analysis we made a "hors partiture", which is a good visual support for listeners, even inexperienced. The eight analyses were coordinated and the results summarized in different tables.




**Figures 11-12:** Examples of hors partiture (François Bayle) and Temporal Semiotic Units Graphics © Pierre Couprie (www.pierrecouprie.fr)

According to the analyses we made, we can point out a division in seven panels or sections (Figure 14): this subdivision is confirmed by the distribution and recurrence of sound objects (Figure 12).




**Figures 13-14:** The three sections pointed out by the composer (stereophonic version) the division in seven panels according to our various listening analyses

Another analyses consisted in checking what type of spatial figures were available in this work: by following the categories pointed out by Annette Vande Gorne (2002), we understood that Donatoni paid attention to the spatial dimension and to gesture organization. We remarked the presence of the following "space figures": *Accentuation; Accumulation; Apparition; Démasquage; Envahissement; Fondu enchainé; Insertion/Rupture; Rebond; Rotation*. For each analysis we made an "hors partiture", which is a good visual support for the listeners, even if inexperienced.

The 8 analyses were coordinated and resumed in tables. These scores place on the same level reading and listening processes; sounds elements are translated into equivalent graphical symbols, which differ according to the kind of analysis. All the readings point out the use of repetition technique, often used by Bruno Maderna that called them re-reading techniques. Donatoni said: "By talking to my students, analysing my works, I noticed that my way of making music was based on some continuous re-reading that I inherited from Bruno Maderna." (Dalmonte, 1988) The Techniques of variations allowed us to single out 7 different sections or panels and not only three panels as indicated by the composer: the subdivision in 7 panels is marked by the use of different metronomes as shown in Figure 14.

This result is coherent with the *Gestaltpsychologie* (K. Koofka, W. Köhler and M. Wertheimer). Gestalt psychology is a school of thought that looks at the human mind and behaviour as a whole. Originating in the work of Max Wertheimer, Gestalt psychology formed partially as a response to the structuralism of Wilhelm Wundt. "The fundamental formula of Gestalt theory might be expressed in this way," Max Wertheimer wrote. "There are wholes, the behaviour of which is not determined by that of their individual elements, but where the part-processes are themselves determined by the intrinsic nature of the whole. It is the hope of Gestalt theory to determine the nature of such wholes." (Negri, 1991).

## Conclusion

Even if our research has encountered some difficulties, for the initial lack of the quadraphonic ribbons, we have tried to adopt a method of analyses to re-appreciate this electroacoustic piece.

This process of revaluation has been reached through a series of steps:

- In the first paragraph, we outlined some similarities between the Third Quartet and the other acoustic string quartets by highlighting curiosities, similarities and differences.
- In the second paragraph we described the musical and historical context of the post-war period, the technological context of the Studio of Fonologia that allowed the creation of this work.
- In the third paragraph we investigated into the relationship between Donatoni and the new musical languages.
- In the fourth and fifth paragraphs we explained what we mean by ending of sound dictatorship and we described how Donatoni was more enchanted by the new possibilities of the "Elektronische Klangerzeungung" than by the opportunities offered by the *Musique Concrète*.
- In the sixth paragraph, entitled "The leavening of the material", we analysed the structural progressive processes from mini-structure to the general form.

We pointed out the continuity of thought with Stockhausen, with the experience of Group Techniques and in general with Structuralism. In the last paragraph, we tried to coordinate different techniques of analyses and we realized different "hors partiture"; each of these "scores" cannot synthesize the complexity of Donatoni's work but can give evidence of the use of repetition techniques, contrast and variation.

The general impression that we get when we listen to this work is that it is an electroacoustic piece that has something from Structuralism but it has also personal features in the use of "qualified" and "well-characterized" sound material. A wise use of compositional parameters, such as frequencies, amplitudes and spatial dimensions, can be pointed out.

Moreover, we can highlight a better gestural articulation and dramaturgic direction as against other electroacoustic compositions of the structuralist period. All the analyses carried out underline the composer's ability to control not only the traditional musical parameters, but also the relationships between sound objects, the explicit meanings of every sound object in itself and in relation to others.

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