

Creation from the perspective of "living soundscape"-- taking the example of H. Gorecki Sting Quartet No.1

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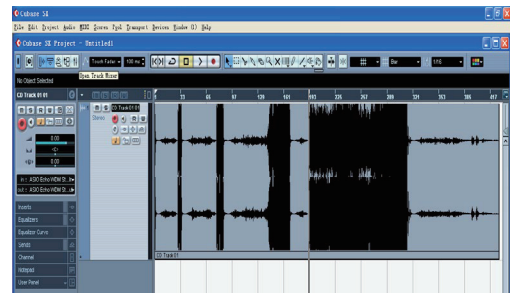
Abstract

Using the method of "living soundscape" -- analysis -- "living soundscape", this paper makes deep exploration on Polish famous composer Gorecki's String Quartet No.1. It analyzes and deduces the penetration and comparison of acoustical material between longitudinal constitution and horizontal layout, to seek for inevitability and occasionality between "living soundscape" experience related to sense of principle of rational organization in auditory sense. In this way, the paper tries to establish a "living soundscape" based musical autonomy model so as to provide foundation for research on visual organization of sound.

Key words: Gorecki, living soundscape, contrast, acoustics

I. "Living soundscape" experience

Gorecki's String Quartet No.1 gives listeners the deepest acoustic impression: contrast · uniform · endless. The work's acoustic shape is extremely special: two differently characterized acoustical materials are always interspersed: vocal polyphonic texture and homophonic texture with pillar chord and melody, which are interwoven, circulated and most directly contrasted but the final result of circulation and comparison is the trend to uniformity. The most direct acoustic reflection of such processing method for acoustical materials is a constant and endless strain. In this sense, the work has only one starting and once it starts, it never ends. For listening to this work at the second time, the deep acoustical experience and the work's strain exists before the acoustics begins; as a result, the unison D, A perfect fifth interval brings some influence of evocation and signal, as if it walks from silence and appears in the work with a different posture to call for the next silence finally. What is interesting is the structure interiors of the two acoustical materials also have some convergent elements. For vocal polyphonic texture, its own static acoustics has a uniform feature in nature, while the rhythmic interpretation of pillar chord also tends to show a constantly steady acoustic shape after a certain mass of circulation with the same dynamic range. Thus, although the two acoustical materials are remarkably contrast in auditory sense, their natural acoustic shapes are similar. During their own development process, the two materials both display a continuously extension tendency. From the perspective of speed, there is a rhythmic haste contrast in the extension of rhythmic texture of pillar chord, which eventually builds a height for the work's orderly structural shape, so as to achieve its perfect golden ratio in time domain inside the work. (Figure 1)



The work itself is an endless song, starting from silence and ending in silence, yet its entire acoustics is always sharp and rigid with heavy trace of folk arts. The author is deeply impressed by such endless charm as same as folk songs and finally begins to take the music score to explore its secret after several times of living soundscape.

II. Detailed analysis

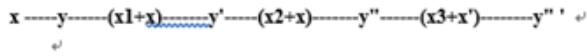
According to the introduction in head page of music score, the work was composed in 1988 and inscribed for Kronos Quartet Group. It was shown first time in 1989 and with a style of composer's later period. The title of the work is: "Already it is dusk", originated from the same music of Szamoutul, a Polish composer in the 16th century. The cantus firmus in Szamoutul's music is the major source of the work. (Figure 2)

Already it is dusk

cantus firmus
from the song
written by Szamoutul

The work can be divided into three sections in respect of layout, displaying a typical triple-division structure. However, the author is more willing to take it as a cycling circulated variant structure consisted of two textures from the perspectives of the correlation between acoustic shape and

material: pillar chord (x) and vocal polyphonic texture (y) are interwoven and developed in the music. The first 124 bars of the work (referred to as Section A below) is a large adagio with the following layout:



Bar. 1-5 6-19 20-27 28-51 52-61 62-95 96-115 116-124

From the number of bars in every verse, it is concluded that in Section A, x and y tend to expand gradually while y'' can be viewed as either an imperfect ending of Section A, or an introducing of Section B. As below, we observe in detail the shapes of x and y and their evolution in Section A. The shape x appears in the beginning of the music, which can be seen as an introducing. But it is in fact an artificial downbeat derived from pillar chord texture verse made up of the whole fifth interval. (Figure 3)

"x"

Every time the texture of the shape x appears, it has fixed characteristics in texture itself, beat, dynamics and rhythm, namely, the form of pillar chord, 2/4 beat, forte dynamics and irregular pulse of accented note. These fixed characteristics are the features of the shape x. In Section A, the development of the shape x is not only demonstrated in the expanding verse length, but also in range and concentration of voice register, as well as change of pitch combination. (Figure 4)

(x1)

(x2)

(x3)

	Range	Concentration	Pitch	Entering method
x	one-lined fifth	octave unison homophones concentration	D, A	entering with forte chord, lingering sound of soft chord
x1	two octaves	vl.1&vl.2 unison vla. & vc. unison	D, A #C, #G	entering with forte chord, continuing, voice register jump, lingering sound of soft chord
x2	three octaves	vl.1 vl.2 vla. & vc. unison	#D, #A D, A #C, #G	entering with forte chord, continuing, higher frequency of voice register jump, lingering sound of soft chord
x3	four octaves	vl.1 vl.2 vla. vc.	#D, #A D, A #C, #G C, G	entering with crescendo chord, continuing, big jump of voice register, pitch grading, lingering sound of soft chord

As shown above, in the development process of Section A, the shape x has an increasing trend in range of voice register, a descending trend in acoustical concentration, and an increasing trend in complexity of pitch, but always keeps the interval of a perfect fifth. In the processing of being more complex, it shows the vertical overlap of three perfect fifth intervals which differ by a minor second interval. The vertical minor second interval derives from the composer's personalized auditory aesthetic experience, which becomes a typical feature of contemporary music sound in pitch. For the method of verse entering, the work keeps entering with forte chord and ending in soft chord, with only x3 adopting crescendo introducing. Thus, inside the verses of Section A during development, the shape x always keeps a strain in acoustics and the acoustics tends to be steady with a little dynamic range. Only the big jump of the perfect fifth interval in artificial downbeat makes partial acoustics shaken. Every time of interval big jump, the instruments fall on the two notes -- D and A of one-lined octave, which is a typical acoustics of the shape x. It is worth noting that in x3 verse, there is a melody that circulates in musical scale grading. This element can trace to the pitch grading feature of cantus firmus of "Already it is dusk", which is some hint for melody progression of Section B.

In Section A, the texture of the shape y appears also with fixed characteristics in texture itself, beat, dynamics and range, namely, the vocal polyphonic texture, 3/4 beat, dynamics of soft chord and comparatively static acoustics with four octaves. These fixed characteristics are the features of the shape y. (Figure 5)

In pitch organization, the horizontal melody of all parts in the shape y is sourced from cantus firmus of "Already it is dusk" (see Figure 1). The prototype (P) of cantus firmus appears at vln. part, retrograde (R) appears at vc. part, inversion (I) appears at vl.1 part; retrograde inversion (RI) appears at vl.2 part basically (the first two notes should be C-B according to strict retrograde inversion but they are A-H in the work). The vertical combination reflects the composer's intention: vl.2 enters first and other parts enter subsequently to form a minor second interval combination (range of voice register excluded) with vl.2. In terms of rhythm, the paces of every parts entering are uneven, as shown in the rhythm below (Figure 6),

implying that it has some link with the irregular rhythm of the shape x.

In Section A, the development of the shape y is mainly

demonstrated by the expanding verse length. In addition, the subtle changes in performance practice and dynamics also have influence on the fineness of acoustics.

	dynamics	performance practice
y	pp keeping	a little string-rubbing
y'	pp with crescendo and diminuendo	string-rubbing getting more
y''	ppp with crescendo but without diminuendo	performance mainly with bridge
y'''	ppp keeping	string-rubbing getting more
		performance mainly with bridge
		string-rubbing

As shown in the above table, during the development of Section A, the dynamics of the shape y is basically controlled at the range of soft chord but expression range changes in an olivary shape in general. For y' and y'' in changes of performance practice, the bridge is played to bring a highlight for the whole acoustics. It is worth noting that in the shape y, vln. part always has a special requirement: en dehors, indicating poco marcato. It is obvious that the composer intends to stress the prototype of cantus firmus which can also be considered a "tonal prototype". Throughout the verse of the shape y, four instruments play at their own mid-bass region: vl.1 at alt region, vl.2 at bass region, vln. at mid-bass region, and vc. at bass region; the whole acoustics is low and because the voice register of every instrument differs by octave and the acoustics is shallow, the whole acoustics is a little coarse, exactly conforming to the voice feature of vln. In the opinion of the author, such conformation is a result of the composer's highly sensitive auditory sense and grasp on the whole acoustics, rather than a coincidence.

In Section A, two different textures -- x and y -- can be directly distinguished in terms of dynamics and breath for auditory sense. x is strong and full of dynamics while y is obscure and static. They are intensively contrast for auditory sense and have their own personalities to develop, expand and finally constitute the whole Section A. However, x and y is similar in terms of the whole acoustics and pitch material. Although x and y are greatly contrast for auditory sense, they are convergent in the whole acoustics. The static acoustics of y is in a naturally steady state while the shape x has big jump interval to make acoustics shaken fiercely. But on the whole, a large amount of shakes with the same range also shows a respectively steady state of acoustics. In terms of pitch, the pitch progression of the shape y is basically originated from cantus firmus of "Already it is dusk" while the perfect fifth interval of the shape x can be seen as the combination of every sentence's attack and stop in cantus firmus. Thus, the pitch organization of x and y can be seen as every sentence's longitudinal and horizontal combination alternatively in cantus firmus of "Already it is dusk": at first, extract the attack and stop of every sentence to make longitudinal combination, as the introducing of the music (x); then, show in detail the horizontal progression of the melody... Such alternative development displays an intention of endless circulation, which is conforming to the connotation of cantus firmus.

The 125-350 bars of the work is a constantly rhythmic allegro with a storm-like momentum. From the perspective of texture, it can be seen as the rhythmic deduction of the shape x. Such allegro can be divided into four parts, each similar with others in texture, but different in voice register contrast and instrument combination. In the 125-152 bars, vl.1 and vl.2 combine to become a ostinato figure, while vln. and vc.

constitute an expanding melodic line of major ninth. In the 153-224 bars, instruments are changed and melodic parts are played by pitch string instruments while the melody composition is made by derivative melodic lines derived from x3. The 225-264 bars are repeat of 125-152 bars. In 265-350 bars, the melody gets obscure and quartet returns to unison texture. The contrast and syncopation of voice register range are further strengthened. The whole allegro acoustics is intense with distinctive, but still tends to be steady in acoustic shape and conform to the whole structure.

The 351-395 bars are typical verses of the shape y. But it is worth noting that the verses after 384 bars have the meaning of coda. Their acoustics is mainly consisted of constant long tones and tautophony. Constant long tones can be viewed as a signal for collecting but the sound type of tautophony directly derives from the shape x. So the coda verse is actually the integration of two shapes. However, the sound type of tautophony appears the verse of the shape y, which can trace to crescendo convergence of y" and x3. So, the work's coda in auditory sense implies the inevitable appearance is the texture verse of a forte pillar chord. At the beginning of the work, the unison of D and A perfect fifth interval obviously become the focus of such implication. From this perspective, the work is absolutely well-designed in circulation structure.

III. Return to living soundscape

Return to a pure auditory experience again. The work's features -- minor second in pitch longitude and folk music trace brought about by x texture are reminiscent of Bartok's string quartet acoustics. But in the quartet style, the work does not pursue the voice connection characteristic of traditional chamber music and just constructs the contrast between acoustic shapes with quartet to make people feel fresh unprecedentedly in auditory sense. The work is built on a distinctive and orderly sense of form so it is significantly different from most of contemporary music. However, its special structure and inconsonant acoustics all the time show its refusal to have links with baroque and traditional medieval style. During the process of living soundscape, our strongest sense is its contrast, uniformity and endlessness. The contrast is mainly reflected by the method of conflict needed by music development, which is the most direct contrast. The uniformity is mainly embodied at the entire convergence of acoustic shape and the constant strain of disharmonious acoustics. The endlessness is displayed by musical structure and circulation tendency of the entire acoustical impression. So we can say that the success of the work depends on the composer's grasp on the acoustical auditory sense ratio in time domain, which is also the most attractive charm of the later-period creation of Gorecki. (The similar acoustical experience can be found in his <String Quartet No.2> and <Symphony No.3>). At the same time, the composer adopts constantly different circulation and contrast of acoustic shapes so as to gain a certain structural significance in music space. As shown in Figure 1, the volume contrast of acoustics can bring an obvious relationship of sense of space. Such the work with uniqueness in space relationship can only be produced by a composer with extremely distinct personality. Henryk Gorecki, born in December 1933, is a composer in Poland. He started his career in the 1950s and then tried serial

composition that was prevailing at that time, but later returned. His works have the deep characteristics of Polish folk music and church music...

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