

INNOVATIVE SOUND EFFECTS AND ELEMENTS OF MUSIC NOTATION IN GEORGE CRUMB'S "BLACK ANGELS" FOR ELECTRIC STRING QUARTET

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SUMMARY. The article discusses the revolutionary compositional ideas and the extremely innovative music notation elements employed by George Crumb in his unique string quartet. The study focuses on the unconventional performance techniques that singularize this particular work. As a musical-theatrical composition, "Black Angels" reflects the spirit of American avant-garde, while at the same time representing an artistic manifest against war and terror. Finally yet importantly, the article attempts to familiarize the reader with a bizarre sound universe, bordering achievements in electronic music, and to promote the work of a highly original author.

Keywords: Crumb, quartet, composition, notation, electric, modernism, American, avant-garde, contemporary.

American composer George Crumb was born in 1929, in Charleston, West Virginia. His development as a musician was shaped by the post-war North American artistic environment. After graduating from several important universities in the United States, Crumb completed his studies in Berlin, under the supervision of composer Boris Blacher. His musical aesthetic was primarily influenced by the concision and austerity of Anton Webern's music, as well as by the ritual and mystical aspects of several oriental traditions. Crumb's output has later been internationally recognized, and he has received a number of important awards. The uniqueness of his work owes much to the bizarre sounds that emerged from the author's ambition always to test new performance techniques. In his view, constantly extending these techniques would assure novel timbral effects and, consequently, a particular appeal to his music. At the same

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time, this new approach to performance practice required unconventional and very subtle ways of notating the music.

“Black Angels” is probably the only string quartet inspired by the Vietnam War. Its music is made up of a collection of strange sounds, including shouting, screaming, whistling, whispering, incantation, as well as all kinds of noise caused by a combination of percussion effects. The percussion instruments utilized are more or less traditional. The manuscript bears two important notes: *in tempore belli* (in time of war), and *finished on Friday the Thirteenth, March 1970*.

The work nevertheless includes a series of traditional devices for musical expression, alluding sometimes to the tonal universe, by quoting from Schubert’s “Death and the Maiden” Quartet, from Tartini’s “Devil’s Trill” Sonata, and by employing a phrase similar to the Medieval Latin sequence *Dies Irae* (Day of Wrath). Apart from all these, the unconventional strategy of mixing sound languages is meant to create a surrealistic atmosphere. For example, the players are often required to bow the strings on the wrong side of the bridge, to use metal thimbles when plucking, and to speak or shout words in several different languages, such as English, German, French, Russian, Hungarian, Japanese, and Swahili. They are also asked to play various percussion instruments. The string instruments themselves are amplified according to very thorough directions from the composer, in order to capture certain effects, or to emphasize specific segments of the harmonic spectre. For this reason, the piece is also entitled “Thirteen Images from the Dark Land” for Electric String Quartet.

Before providing further insight into a chosen fragment of this work, we find it necessary to reproduce and explain briefly the performance notes that precede the music:

« All players read from the score.

Each note is preceded by an accidental, except in the case(s) of an immediate repetition of a pitch or a pattern of pitches. N.B.: the tonal passages are notated in the traditional manner.

The amplification of the instruments is of critical importance in “Black Angels”. Ideally, one should use genuine electric instruments (with a built-in pick-up). Otherwise, fine-quality contact microphones can be attached (by rubber bands) to the belly of the instrument. The player should find the best position for the microphone in order to avoid distortion of the tone. If the amplifier is equipped with a reverberation control, this should be set on “high” to create a more surrealistic effect. The dynamic level should

also be extremely loud (for the *forte* passages) and the level should not be adjusted during the performance.

The following percussion instruments and special equipment will be needed:

Violin I: maraca, 7 crystal glasses, solid glass rod (about 6 inches in length and 3/16 or 1/4 inch in diameter), 2 metal thimbles, metal plectrum (e.g. paper clip);

Violin II: tam-tam (suspended) – about 15 inches in diameter, soft beater for the tam-tam, contrabass bow (for bowing tam-tam), 7 crystal glasses, solid glass rod (about 6 inches in length and 3/16 or 1/4 inch in diameter), 2 metal thimbles, metal plectrum (e.g. paper clip);

Viola: 6 crystal glasses, solid glass rod (about 6 inches in length and 3/16 or 1/4 inch in diameter), 2 metal thimbles, metal plectrum (e.g. paper clip);

Cello: maraca, tam-tam (suspended) – about 24 inches in diameter, soft beater for the tam-tam, very hard beater for the tam-tam (this should produce a percussive, metallic sound), contrabass bow (for bowing tam-tam).

The crystal glasses (used for the “glass-harmonica” effect in God-music) should be goblet-shaped (like wine glasses, with a stem). A fine grade of crystal will produce a truly beautiful effect. The glasses should be securely mounted on a board (by taping). The glasses can be tuned by adding water, although the tone loses in purity if too much water is used. The following pitches are required (N.B. the glasses sound one octave higher than written):

Ex. 1

Violin I: 

Violin II: 

Viola: 

The tam-tam harmonics are variable in pitch. The player should bow the “lip” of the tam-tam with a well-rosined contrabass bow.

All *glissandi* occupy the total duration of the note to which they are affixed. Use *portamento* only where indicated in the score.

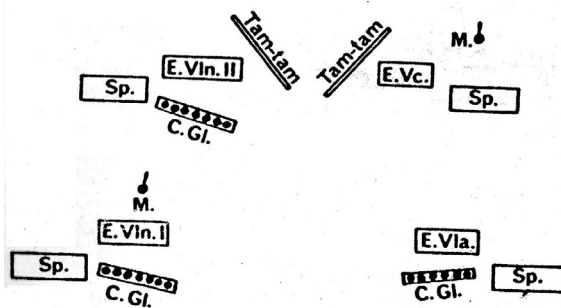
All spoken sounds (whispering, shouting) must project! The whispered passages can be slightly voiced if the acoustics of the hall require this. The tongue clicks [...] are percussive clicks off the upper palate (not clucking sounds).

Ex. 2

- ↑ = a quarter tone higher than written pitch
- ↓ = a quarter tone lower than written pitch
- $\left(\begin{array}{c} \square \\ 3 \end{array} \right)$ = three seconds $\overbrace{\quad\quad\quad}^5$ = five seconds
- \square = fermata lunga
- \circ = normal fermata
- \circ = slight pause or "breath"
- \circ = extremely short pause or "breath"
- $tr(\frac{1}{2})$ = trill a half step above principal note



Ex. 3



(Sp. = Speaker, C. Gl. = Crystal Glasses, M. = Maraca)

The performance notes also indicate the exact stage positioning of the musicians, as illustrated above. »²

² George Crumb, *Black Angels*, Music Score, Edition Peters, New York, 1971, cover.

The titles of the quartet's movements establish a "good versus evil" polarity, with the fourth movement being "Devil-music" and the tenth movement "God-music".³ The author states that "the numerous quasi-programmatic allusions in the work are therefore symbolic although the essential polarity—God versus Devil—implies more than a purely metaphysical reality."⁴

The excerpt chosen for our in-detail analysis is image number four, "Devil-music" (third page of the score; see illustration at the end of the study). It displays an astonishing variety of extended performance techniques, applied to both the strings and the percussion instruments. This movement is an accompanied cadenza for solo violin, named *vox diabolo* (voice of the devil). The very use of electronics and distortion makes this violin cadenza sound devilish. Crumb indicates that he wants the violin to increase bow pressure until the pitch becomes pure noise. When the solo music is not saturated with tritones, it is being distorted to reveal its evil connotations. The quotation of *Dies Irae* occurs in this movement, played by the violin and viola in pedal-tones.⁵ The composer includes a short commentary on virtually every unconventional attack mode he employs (e.g. "in romantic – phantastic style!", "ugly, obscene", "ferocious", etc.). One can notice a multitude of tasks that the players must perform – they need to be prepared to react promptly and be flexible to the sheer number of musical and theatrical requirements. The rapid shifts from playing *ordinario* to playing non-traditionally, as well as permanently using both hands in order to manipulate the percussion instruments, places an incredible burden on the quartet, which means that, for satisfactory results, the work needs to be memorized, at least in part.

It is worth mentioning a few of the notation particularities and the extended techniques identified in "Black Angels". The score is structured in systems with a mosaic of cut-up staves, emphasizing a particular musical dramaturgy. Each instrumental part is frequently assigned more than just one staff – corresponding to different simultaneous tasks, or simply meant to clarify the desired sound effect. The multitasking aspect involves various combinations, such as left hand playing *pizzicato* and right hand using a percussion beater, or right hand bowing the tam-tam. These *pizzicati* might involve double or even triple stops, which is highly unusual and quite difficult. Artificial harmonic tones (*flaggiolo*), various slides (*portamento*), bowing directly on the bridge (*sul ponticello*) are very common techniques

³ Melissa West, *A Deconstructive Reading of George Crumb's Black Angels*, Essay, McMaster University, Canada, 1997, p. 2.

⁴ Crumb, cover.

⁵ Crumb, p. 3.

in the quartet. They are not just groundless ornaments, but rather serve a precise timbral and dramaturgical purpose. Vibrato is sometimes amplified to the point it becomes up-and-down *glissando*. This might involve double or triple stops, too.

The dynamics' range of the piece is expanded to the extremes, from virtually inaudible murmur to sheer noise obtained by means of ferocious *crescendi*, or by exerting brutal bow pressure on the strings. An interesting effect is achieved when pedal-tones are played very loudly with very slow bowing, a technique that produces sounds with a high distortion component, resonating as lower harmonics (an octave below the real notes). Bowing direction is always indicated strictly, even when it refers to the percussion instruments, such as the tam-tam. A startling effect frequently employed by Crumb derives from a combination of *tremolo*, *sul ponticello* and *portamento*. Bowing both above and below the fingers is also common, as are quarter-tone trills. The gradual movement of the bow from the fingerboard to the bridge and back generates a strange sound environment that is idiomatic to the piece. It confuses the listener into believing this is electronic music. Although not a completely novel technique, *col legno battuto* is utilized by the composer in unconventional ways as well. Thus, the players are supposed to strike the stick of the bow against the strings very close to the pegbox, which creates an eerie and frightening percussive sound. Finally, the focal point of the entire sound universe of this work is probably the tam-tam hit. It is carefully prepared and comes only at moments of climax, by a violent blow with the hard mallet, which makes it sound like a terrible crash. An immediate rub with the contrabass bow on the tam-tam's rim amplifies the vibration, and helps to sustain it longer.

The use of amplification, electronic controls and distortion is significant to Crumb's notion of reaching out to the unworldly. In many instances, especially in obvious electronic instances, the electrified sections of "Black Angels" represent evil.⁶

Many of these strange effects require meticulous explanation; therefore, the composer felt the need to introduce detailed footnotes in the score. A variety of suggestive graphical elements is also present along with textual directions.

The overwhelming diversity of extended performance techniques and novel sound effects showcased by "Black Angels" make the piece an accurate reflection of the musical avant-garde of the 1970's. At the same time, the descriptive, image-oriented nature of this quartet places it among the most theatrical and recognizable works of chamber music in history.

⁶ West, *A Deconstructive Reading...*, p. 2.

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