

An Archive of the musical compositions by Herb Bielawa

Composition:

Spectrum for Band and Tape

Date: 1966

Duration: 6:00

Performers:
Various

about the composition

SPECTRUM was written in the spring of 1966 for the Memorial High School Band in Houston, Texas. The piece was written as part of my work under a Ford Foundation grant as composer-in-residence for the Spring Branch Independent School System. It is a work for mixed media — pre-recorded tape and live musicians — and is a serial piece in one movement of about six minutes duration.

Two particular aspects of the piece are thus thrust beyond the traditional: instrumental color (electronic sounds) and harmony (cluster sonorities, in part a result of the serialization). To counterbalance the courtship of these two extremes, I have purposely kept the overall form of the piece rather straightforward, namely ABA.

There are some essential details of interest in the A section which I should mention. A is more or less complete as a musical entity. I have used the instruments in this piece as an artist would use paints, counting on the individual instruments to preserve their typical colors. My band writing is therefore, as one would expect, extremely polyphonic, however in a more abstract than neo-baroque sense. One might say it is a polyphony of musical gestures. In A it is the interweaving of four such gestures, each distinctly different in character. Their simultaneous intermetamorphoses give the A section its kaleidoscopic nature.

Electronic sounds dominate the middle section of the work. These sounds have their source in a piano and "white noise." They were simply recorded with a microphone and then transformed into new sounds with the aid of two other tape recorders and an involved splicing procedure. Concerning its musical shape, it is significant to note that after the transition from the band the tape part states forthrightly its own exposition. This exposition is rather short, being made up of two phrases. The second phrase is extended and dissolves into the first ensemble, a trio for oboe, trumpet and tape ostinato. The clarinets join in, then individual brassy. Soon musical commentaries are being made from all quarters of the band and tape recorder. This gains in momentum up to the recapitulation of A. The tape "scorevole" at this point carries in itself the charge of all the busy activity which has characterized the B section, but the band is now a consolidated tutti and determined to clear away section B and return to A. As it does, A rides in on the spent "froth" of the tape scorevole which has now been quieted.

A's return is a note for note repeat of the first A for some twelve measures. It is then assailed by a brash, arrogant ostinato in the tape part which endures for almost a full minute. This particular section, a quasi cadenza, is rather like a combat between percussion and tape. The percussionists are instructed to "wade into the ostinato," as it were, and to attempt to take some of the attention away from the tape. This may never really be accomplished, but the super-charged atmosphere that results from the percussion trying to take over is precisely the effect wanted.

SPECTRUM is tonally organized by the following series:



It is divided into three groups. The first two are made up of five notes each, the second group being an inversion of the first. The third group contains only two notes, a semi-tone apart. This organization reaches into the pre-recorded electronic pitches as well as the performed parts.

To many the composition may seem a digression from tradition. To be sure it is a digression into the untried field of electronics for me, but divorced from the compositional tradition it is not. Cause and effect, unity and variety, exposition and development, tension and repose all operate in **SPECTRUM**.

to the conductor

The notation in the scores for the Tape Recorder is visually suggestive of the tape sounds. Their exact rhythmic configuration is important, however, since you will have to follow it. For your benefit, therefore, I have added rhythmic musical notation cues to help clarify the rhythm.

You should give the operator of the Tape Recorder definite cues at his four entrances —

1. the third beat of measure 38,
2. the first beat of measure 144,
3. the third beat of measure 161 and
4. the first beat of measure 201.

The 5/4 measure (63) is actually a small amount longer than 5/4. However, if you allow for this, you should find it relatively easy to pick up the slight accent at Tempo II — the 2/2 beginning at measure 64.

The tape "ching" at measure 66 is to be used as a cue for the two solo instruments entering at measure 67.

At measure 144 you will be able to feel the slight but definite pulse on each quarter note beat of the tape. The band should play with the tape as precisely as possible. Avoid a tendency to drag. The effect could be likened to an assault on the tape by the band, hence aggressiveness should be the band's manner here.

From ms. 162 to ms. 191 the tape figure is a steady series of staccato eighth notes. This section is unswervingly metronomic. In fact, use the tape as a metronome. The band should also listen to it for tempo.

The importance of the tape entrance exactly as notated at ms. 201 cannot be overstated. The sudden emergence of the tape part out of, but connected to the last band chord is dramatically critical at that point.

A possibly confusing measure is number 114 — the $\frac{1}{2}-1$ bar. This could have been notated as a 3/4 measure. However, my reason for doing it as I have was to make it easier for the horns to play the triplet quarter note figure. In 3/4 they would be required suddenly to feel the triplet against two beats. It should be conducted as a quarter note down-beat and a normal half note up-beat. The following 2/2 measures continue in the normal two beat pattern.

The tape runs continuously from the initial entrance at measure 38 to measure 135. Those sections in which the tape is silent are measured out by blank tape. Therefore, it is important that you neither lose nor gain tempo in the interim. This will probably be the most difficult task for you. Practice with the tape alone prior to rehearsing tape and band together is recommended.

to the tape recorder technician and/or operator

The pre-recorded Tape, which is a part of each band set, is a 2-track stereo tape. Additional copies may be obtained from the publisher. A tape for 4-track stereo Tape Recorder is also available.

The electronic equipment necessary for performance of "Spectrum" is as follows:

1. Two-track stereo tape deck with pre-amps.
2. Stereo Hi-Fi amplifier.
3. Two good-sized Hi-Fi speakers.

(Amplifiers and speakers should be approximately 75 watts. The exact power demands will depend on the size of the band and the dimensions and acoustics of the hall.)

As clearly shown in the printed part for Tape Recorder, the tape is to be played at four different places —

1. the third beat of measure 38,
2. the first beat of measure 144,
3. the third beat of measure 161 and
4. the first beat of measure 201.

At the conclusion of each of those four sections the tape should be stopped when the white leader tape has reached the playback head. After each of the first three sections the leader tape should be advanced manually to the marker for the next entrance.

The pre-recorded tape has an abundance of white leader tape at each of the two ends and two feet of white leader tape between each of the four sections of pre-recorded tape. Because of the varying characteristics and physical arrangements of the many different kinds of tape decks available today, there has been no attempt to mark the tape. The white leader tape can easily be marked by you. It is highly important that you determine by experimentation the precise location for the mark for each of the four entrances and add on the white leader tape the mark which will assure that the tape recorder plays precisely on the cue from the director.

/s/ Herbert Bielawa