EAST 205 - Russell D & Aterman M - Research Report Classes 9 & 11 - Tronys - 'Vector Alpha':

Name of Class: Trionys
Date of Classes: November 6th and 20th
Date Submitted: Thursday December 13th

Sources *(used for biographical context)*:

Earsay Productions:
http://earsay.com/artists/bio/tr.html

Discogs.com:
http://www.discogs.com/Trionys-Vector-Alpha/release/240676

Energy Analysis of Movement 1 - 'Eruption':

This movement starts off at very low amplitude and continually ascends in the output of acoustical energy through to its conclusion. As the title of the movement might suggest, distant booming explosions become ever louder and emphasize the effect of increased proximity to an implied blast radius. This can be blatantly demonstrated in an oscillogram or waveform editor, where the explosive transients get louder and louder throughout the piece. At approximately 40s, the listener is gradually confronted with layered ambient reverberation nestled in the background of these explosions. 1:45 sees the introduction of percussion player Martin Bürk utilizing a gong, perhaps layered with a crash cymbal, adding impact and gesturally providing sectional separation for additional elements to follow. The spectrogram shows dense atonal spectral activity up to 8 kHz at this moment. 1:48 marks the awakening of Rainer Bürk's piano parts playing in the lowest octave, generating tension and adding intrigue. At 2:08, a reversed gong or crash cymbal is heard, producing atonal spectral density. More lower pitched piano tones feature at 2:36 amidst heavier reverberation, filtering into the higher frequencies and peeling themselves away to leave space for more everpresent explosive eruptions.

At 3:17, the listener is confronted with high pitched insect esque squeals, preempting the seemingly random and chaotic piano flourishes which follow. Intense dissonant atmospheric elements combine with the piano parts, augmenting acoustical energy during this passage of the movement at 3:40. Percussive strikes overlay the chaotic piano flourishes before harsh crash cymbals energetically punctuate through the mix. At 4:17, we hear the atmospheric elements descend in pitch suddenly, impressing a winding down of the sonic elements and preparing the listener for the movement's concluding moments.

Upon inspection of the spectrogram, we can also see that there is a constant 16 kHz signal appearing approximately 40 s into the piece, and a more faint signal around 17 kHz. This is manifested as a discrete high frequency humming hidden amongst the ambient parts. Assuming it is an intentional feature of the piece (and not a ground loop hum imparted during the recording process) it could serve to add additional high frequency excitation, keeping the listener on the edge of their seat.

Energy Related Key Terms of Movement 1 in Chronological Order:

Ascending, booming, proximity, explosive, ambient, gong, impact, piano, squeals, percussive, chaotic, intense, dissonant, winding down.

Supplemental Reference Documentation: (*See Movement 1 Spectrogram).*

Energy Analysis of Movement 7 - 'Eisige Resonanz':

This movement commences with eerie, meandering atmospheric textures until the sounds of lightly reverbed and crackly percussive strokes appear at 1:09, visually resembling the peeling of velcro, or perhaps the bursting clicks of popcorn heated to fruition. Lower pitched vocoded textures appear at the 1:55 mark followed by what sound like Günter Marx's piercing high pitched and heavily processed strings, raising the level of intensity and instilling a sense of anxiety in the listener. Epic delayed strings emerge from the cavernous backdrop of reverberation at 2:23. Very soon the piercing strings return, morphing into what aurally and visually resemble scavenger birds eagerly awaiting the opportunity to swoop down on discarded animal carcasses. The spectrogram shows dense harmonic activity in the upper frequencies during this period. Eerie high pitched whistling at 3:18 paths the way for deeper and more resonant ambience which subtly fluctuates in intensity for an extended period before ever so slightly ascending in pitch. 4:29 marks a pivotal point in the piece where screaming delayed strings accompanied by Martin Bürk's powerful kick and crash acutely slice through the mix. We now hear the ambience at the forefront with faint reverbed organ esque stabs and bell-like tones. This is evidently portrayed in the spectrogram very dense activity right up to 20 kHz.

Scattered percussive rattles are inducted at 4:38, followed by more high pitched wailing and screaming around 4:55. The rattles become more supernatural sounding by adding tonality, perhaps due to processing with ring modulation and resonant filtering. Energetically, these percussive blips add a sense of pace to the piece. Moody sustained bell tones start to feature more prominently at 5:19. Another instance of the crash and screaming delay at 5:47 preempts a shift in energy as Rainer Bürk's piano fades in, playing alternatingly contrasted dissonant and melodic flourishes. What sounds like a resonant saxophone (but could also be Günter Marx's violin) intersperses these piano parts. At 6:54, the atmospheric elements fade out, leaving just the piano and sax to accompany one another, playing unconventional melodic lines as if it were an improvisation. Spectral activity now becomes more harmonic, with evenly distributed partials up to the highest frequencies. The intensity of the movement is raised at 8:25 as the piano keys are struck more forcefully and the saxophone is blown more turbulently before the piece reaches it's conclusive ends with faint notes of both instruments fading away gently.

Again the spectrogram shows a constant 16 kHz tone and a more faint 17 kHz tone appearing around 4:30 until the end of the movement. There seems to be a recurring pattern, perhaps some sort of spectrally coded message, which would require a separate analysis on its own.

Energy Related Key Terms of Movement 7 in Chronological Order:

Eerie, atmospheric, crackly percussion, lower pitched vocoded textures, epic, cavernous reverberation, morphing, whistling, resonant, fluctuation, kick and crash, ambience, scattered percussion, piano contrast, violin or saxophone, unconventional, turbulent, fading away.

Supplemental Reference Documentation: (*See Movement 7 Spectrogram.)*

Energy Analysis of Movement 9 - 'Urgrund-Verweht':

This movement begins with lots of activity in the lower frequencies of human hearing, the first 20 or so seconds of the piece consisting of nothing but an ominous, droning, subsonic tone which increases in intensity towards the 20 second mark. At this point it is joined by another sound, a synth-pad like drone which adds an element of rising tension to the piece. At 1:03, these sounds are interrupted by a flurry of screeching, almost-distorted violins from group member Günter Marx, which reverberate off into the distance 10 seconds later as the piece resolves to the same atmosphere as before, with the aforementioned droning sound taking the foreground again. The same violin-like noises are heard a second time at 1:38, disappearing once more in a sea of reverb, as the sounds of wind and cymbals fade in, quickly occupying the focus of the listener. The wind gets progressively louder and more prominent in the mix as a sort of call-and-response pattern between a high-pitched synth noise and a flute occurs in the background.

The energy of the piece continues to build, reaching the apex at 2:52, at which time all the elements of the piece briefly become "scrambled" together, almost as if being heard through a distorted radio that is only partially receiving a signal. The piece maintains this chaotic sense of atmosphere for almost a minute, with erratic drum and cymbal activity instilling a sense of panic and immediacy in the listener. A look at the spectrogram indicates lots of dense spectral activity for this section of the piece all the way up to 18kHz.

As the piece reaches 4:00, the energy levels start to decline, with a droning, low-pitched synth tone and a flute-like instrument becoming the focus of the listener. Indeed, a quick glance at the spectrogram for this movement shows steadily decaying levels of spectral energy beginning just before the four minute mark. The flute-like wind instrument dips in and out of the foreground while the droning noise persists and an erratic, high-pitched, siren-type noise occupies the background, giving the piece a cold, cavernous feeling. As the piece nears 6:00, the siren noise and the drone that have been the focus of the piece for almost two minutes start to decrease in amplitude, giving the piece a sense of finality, all the while a violin creeps into the foreground. At 6:20 the violin is the only element remaining, the absence of the droning sound at this point being very noticeable. A glance at the spectrogram for this part of the movement confirms a lack of low-frequency content at the 6:20 mark while the presence of the violin and the resulting evenly-distributed partials are also very noticeable. The violin plays a short, somber melody before trailing off somewhat abruptly at 6:43.

Energy Related Key Terms of Movement 9 in Chronological Order:

Ominous, droning, subsonic, tension, screeching, reverberate, atmosphere, scrambled, chaotic, erratic, panic, immediacy, decaying, high-pitched, cold, cavernous, finality, somber

Supplemental Reference Documentation: (*See Movement 9 Spectrogram.)*

Energy Analysis of Movement 13 - 'Finale':

This final movement commences with a loud timpani drum hit from group percussionist Martin Bürk, immediately plunging the listener into a frenetic, chaotic maelstrom of orchestral sounds. One look at the spectrogram for this movement reveals lots of activity across the entire range of human hearing for almost half the piece as well as a constant 16 kHz tone that persists throughout the movement. A drum kit and cymbals provide an arrhythmic backdrop to what sounds like all 88 keys of several pianos being played in rapid succession alongside high-pitched tubular bells, giving the piece a very high-energy feel. Closer listening also identified what sounds like an arpeggiated synth pattern, somewhat obscured by many of the aforementioned sounds occupying the same critical band. This cacophonous onslaught continues until around 0:50 as a piano takes over the foreground playing an ever-higher sequence of notes alongside a descending siren noise, further raising the energy levels of the piece. The piano begins to play slower following the one-minute mark as the siren and tubular bells fade off into the background leaving behind a tail of reverb until the listener hears nothing but silence at 1:25.

Energy Related Key Terms of Movement 13 in Chronological Order:

Loud, frenetic, chaotic, maelstrom, arrhythmic, rapid, cacophonous, descending, silence

Supplemental Reference Documentation: (*See Movement 13 Spectrogram.)*

Overview of Large Scale Structures in 'Vector Alpha':

'Vector Alpha', performed by the group Trionys relies on a diligent logistical coordination between the three members of the band, Rainer Bürk (on keyboards and electronics), Günter Marx (violin and electronics) and Martin Bürk (gongs, percussion, and electronics). Each player is specialized in one instrument (or at least one instrument family), yet they all contribute to performing the more processed electronically manipulated sounds. For these reasons, it can be difficult to know for sure which players are involved during more ambient or processed sections of the various movements.

The first two movements are of the predominantly ambient variety, featuring many unequal accompaniments between percussion parts, ambience, keyboards, and violins. The third movement ventures into more energetic territory with somewhat equal cacophonous accompaniments between the three players. The fourth, fifth, and sixth movements' augmented intensities are portrayed through dominant percussive rhythms while the other players take on a more supportive role. The seventh movement sees a return to a calmer state, with more solo and accompanied performances contributed by all three players.

The eighth movement, as the name "Piano Solo" suggests, relies heavily on group member Rainer Bürk's keyboard work. A natural progression from movement seven, this section of the piece is more subdued than some of the earlier parts of the composition, such as movement four. The beginning of movement nine marks a shift towards a more ambient sense of atmosphere,

though, as this section progresses, percussive elements come into play and the listener is, again, immersed in a sea of chaos as the percussion and electronic elements of the piece take centre stage. Movements ten, eleven and twelve are largely based around electronic instruments. The tenth movement is quite high-energy, a departure from the last few seconds of movement nine, which consists of a mournful violin melody. The eleventh movement contains lots of space and sparse instrument activity, while the twelfth movement raises the energy levels in preparation for the thirteenth and final movement, which begins with an anarchic, percussion-oriented flurry and finishes by quickly trailing off into the distance, bringing the energy levels back down to a threshold.