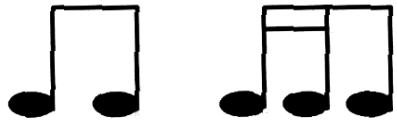
View Annotation

HSC 2002 - Music Extension

Low Band 4 - Sample 1

EDGARD VARESE



"IONISATION"

With his work Ionisation, the first [Western] work for percussion orchestra, Edgard Varese proved that a work could be musical (albeit unconventional) without having pitch or melody as the primary focus.

Sounds, as such, are the essential, structural component of this music; more basic than harmony, melody or pitch. Thus, timbre and rhythm represent the essences of harmony and melody in *Ionisation*, resulting in a complex work which is not dependent on harmonic progression or thematic workings.

Ionisation, as Westerners recognise it, is the first and most complete work to explore and exploit the structural elements of all non-pitch properties of sound, or, as Varese puts it, "noise". Varese believed that there was music in noise and that it had a played an important role in musical art. Utilising this idea, Varese used the resonant capacities of percussive instruments in *Ionisation* to further explore this concept, resulting in the heralding of a new chapter in twentieth century music. *Ionisation* demonstrated that the following could be achieved:

1. The translation of percussion into melody
2. The translation of rhythm into melody

AND

3. The translation of timbre into melody

Whether or not Edgard Varese purposely tried to achieve this or not is irrelevant as the piece clearly demonstrates the success of these conversions. All of the instruments used in *Ionisation* are assigned parts in order for this "piece without melody" to progress. As employed in the score, the instruments are selected for specific functions and grouped according to timbre, articulatory and vibratory characteristics, and their relative registral or "pitch" positions (see Figure A). They achieve the purposes of generating ideas, defining their own texture (and others' by means of contrast and juxtaposition), linear

development, parallelisation of texture, desynchronising phrases and sections, "modulation" in timbre and register and providing specific acoustics.

Fig. A

1. Metal
Triangles, anvils, cowbells, hand cymbals, crash cymbal, suspended symbol, gong, tam-tams, and rim shot (on tarole, snare parade and tenor drums)

2. Membrane
Bongos, snare drum without snare, tenor and bass drums

3. Snare
Tarole, snare drum with snare, and parade drum

4. Wood
Claves, woodblocks and slapstick

5. Rattle Scratcher (multiple bounce)
Sleigh Bells, castanets, tambourine, maracas and guiro

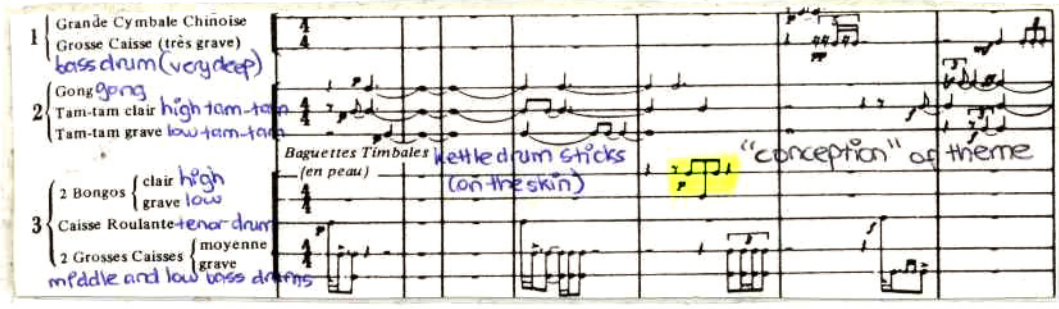
6. Air-Friction (varying intensity)
Sirens and string drum

7. Keyboard Mallet (tone clusters)
Glockenspiel with resonators, chimes and piano

The work opens quietly with a predominantly sustained sound emerging from the gong, tam-tams, siren and cymbals, rather as if the piece is to grow from elemental and abstract beginnings, not unlike the build-up to a theme. This section (bars 1-8) is rather introductory in character as the first four bars serve the purpose of asserting and defining the first of many different types of texture in the piece. This texture, achieved by tenor and bass drums, gong and tam-tams, siren, snare and cymbals, is rarely absent throughout the rest of the piece. Thus, this first introduction of a type of texture could be regarded as a foundation for the piece's structure, with metallic sounds dominating the work. Scanty but firm rhythmic ideas further on in this section serve as anticipation to a development later

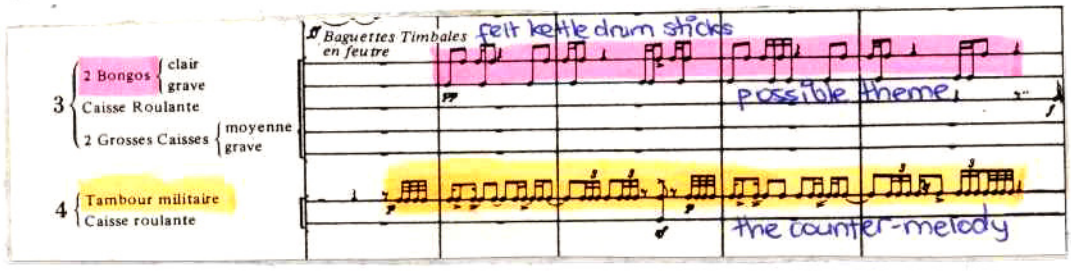
on in the piece. The bongo figure at bar 5 is significant as it is the first introduction to the idea of a theme (see Figure B), thus relating this motif to similar ones later used on the bass and tenor drums.

Fig. B



The counterpart to a theme begins in the bar before Figure 1 where the military drum asserts its presence with a martial figure (accompanied by bongos) which is to be prominent in the opening sections of the work as well as throughout the entire piece:

Fig. C



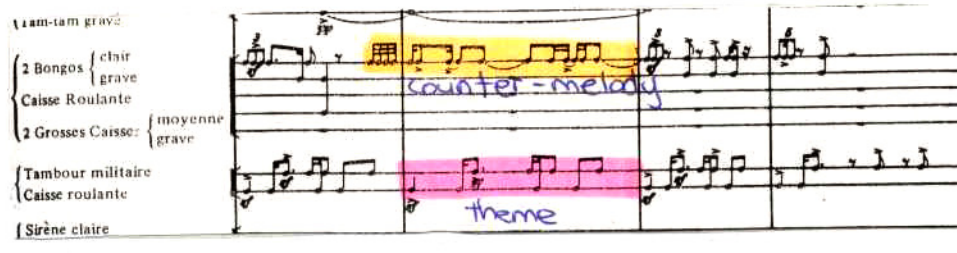
Whether it is permissible to speak of the rhythmic figure at Figure 1 as a theme substitute is debatable; it is perhaps better to simply regard the military drum as the "first violin" of

an ensemble and then perhaps to be assigning instruments as counterparts to an orchestra, so that at least initially, concentration can be placed on that line.

Listening to the whole piece will also show that pitched elements (e.g. piano) are merely added as additional sonorities; the real focus of the work remains rhythmic and timbral throughout.

The idea of thematic development and juxtaposition of textures begins shortly after the theme and counterpart are introduced, and a role reversal becomes evident. The bongos begin to take on the role of the "theme" while the military drum plays the counterpart.

Fig. D



The close relationship (considering comparison and contrast) of textures in *Ionisation* becomes apparent at measures 13-20 where the texture is rapidly transforms into a new timbral idea at bar 18. This rhythmic unison at bar 18, which prepares for the following dominance of triplets, provides a chordal-like texture by interlocking the timbres and registers (refer back to Figure B).

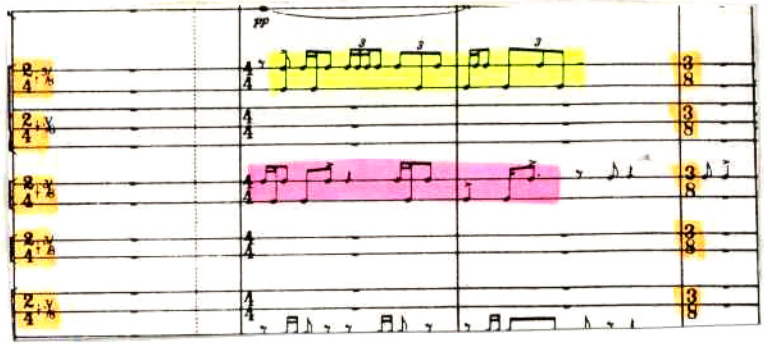
Linear developments and the use of parallel "streams" are evident from bar 21. This becomes more visible that the work is a structural use of sound, each made up of sound masses and silences, but not without continuity, which is maintained by the overlapping of these "streams".

These features are similar to what would be observed as a *melodic progression* in more harmonic compositions, further proving that a work without pitch or melody can in fact be musical.

These structures are distinguished in terms of pitch, interval, register, rhythm, instrumentation, arrangement (both linear and chordal), or points at which the piece changes, particularly in time signature.

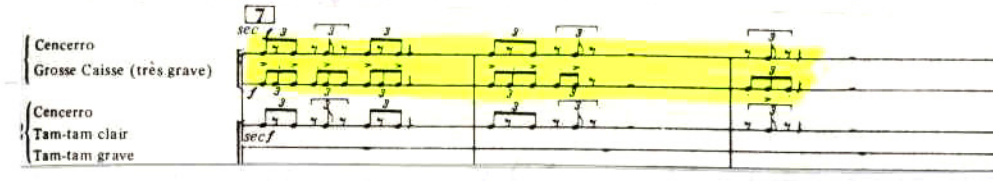
On a similar note, the rhythmic complexity is largely a matter of duration and groupings rather than of actual tempo (which remains constant throughout the piece) or metre: the two major changes of time signature are not obvious but may be heard as built-in rubato at the end of phrases:

Fig. E



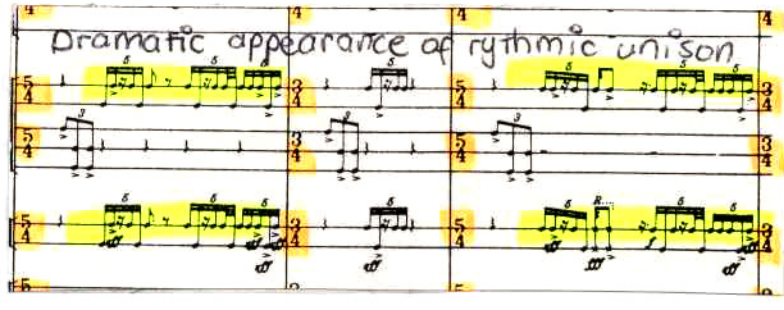
From bars 30-50, parallel sonorities are effectively juxtaposed with the two new textures that have gradually developed from bar 12. Evident in this section are linear movements with a similar texture (parade drum and tenor drum, tarole and snare drum). These are projected as interlocking chords in a rhythmic unison and are more easily identified by the accents and changes in register. The result is a two-to-three rhythm:

Fig. F



Therefore, it is predictable that the bongos, parade drum and maracas follow that rhythmic figure and the cowbells and tambourine take on a triplet form. The abrupt appearance of the cowbells signals yet another example of change in timbre and register from section to section, and provide for a smooth transition into the anticipated anvils which appear at bar 51. After a "cadence" (rhythmic and even timbral) are completely banished at bar 44 when rhythmic unisons become prevalent:

Fig. G



All these chords are mixtures of all the previous textures, rather than separate sonorities linking to one another.

This repeated "phrase" indicates a rise in register. The movement from low to high covers a vast range and is emphasised by the tambourine roll and in particular, the sirens. Varese utilised the sirens as a means of obtaining slow, continual glissandos, which in a way, allowed for pitched progression. Although the instruments used had *a* pitch, they were incapable of normal intervallic progression. The only instrument (barring the piano, which is not used in this way) that can somehow achieve pitch without succumbing to convention in *Ionisation* are the sirens, demonstrating their importance in the piece.

This important movement and change in timbre and register prepares for the next section in which the sounds of the first texture, and the theme and counterpart, return. This return is characterised by a very metallic sonority (excluding sirens), predominantly featuring anvils, cymbals and gong, and an again elaborate rhythm. The result is not only a transformation of timbre and sonority from that of poly to mono (metallic) but also of a restricted register to a vast and more free register, making use of the available range.

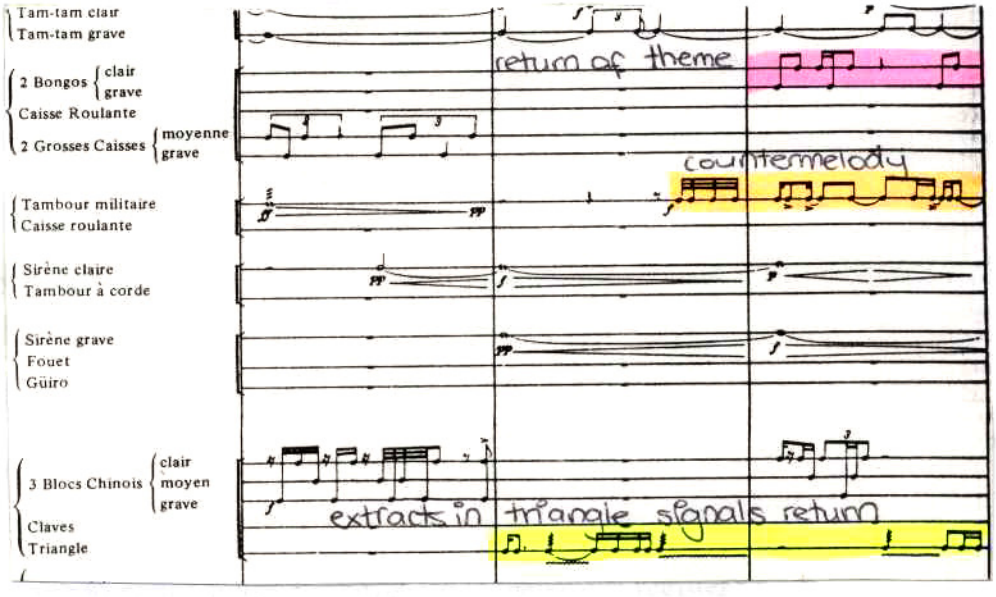
The presence of the anvils and the emphasis of the gong's timbre and effect creates a sudden overall change in texture from that of the previous linear developments.

Essentially this section of *Ionisation* serves the purpose of juxtaposing changes in timbre and register from section to section.

The first few four bars at bar 69 are a combination of all the textures, timbres and registral and linear developments which were initially asserted at bar 23. The linear fusion of the bongos and the bass drums in this section clearly emphasises a close relationship between the two instruments, and between the textures they produce. This unity in texture and timbre is further highlighted by the presence of the bongo motif in the anvils part, thus demonstrating the way in which Varese has unified three different textures. The repeated appearance of the chordal phrase serves to build up a climax where the textural quality present at the beginning of the piece is reasserted.

This return is heralded by the triangle and the end of a siren crescendo, with extracts of the counterpart to the "theme" played by the military drum (see Figure F) a few bars earlier.

Fig. H



Contrary to popular opinion[1], *Ionisation,* as proven in the score, does experience moments of climax. There is not a conventional climax consistent with what Westerners listener for, however there are definite moments of tension and release.

Varese achieves this release by means of rhythmic unisons (parallel rhythms or "streams"). There is no doubt a sense of progression through development and through release - the siren proves effective in accentuating this disengagement because it adds an emotional quality; the sound of a siren has a significant meaning in real life, one of urgency, tension and fear. Adding to this, the atonal scale and the sound it generates creates a feeling of suspense and uncertainty.

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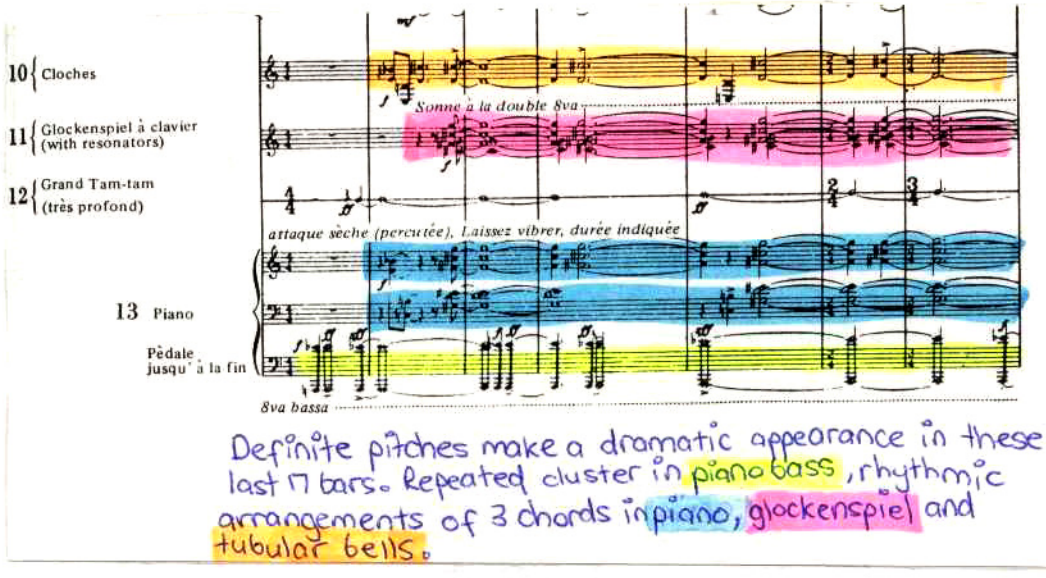
[1] The New World of Edgard Varese; A Symposium. Sherman Van Solkema, University of New York, 1979
The Music of Edgard Varese. J.W. Bernard, Yale University press, 1987
www.stevenestrella.com/composers/composerfiles/varese1965.htm

At the conclusion of the work, starting at approximately bar 75, begins a section which is much like a summation as well as a coda. This section consists of alternating extracts and unisons of all the different textures presented in the piece, as well as contrast between them achieved by juxtaposing the different timbres, register and pitches.

The "conclusion" begins with a metallic intonation similar to that of the opening bars of the piece which is highlighted by the appearance of the chimes and glockenspiel, as well as a deep tam-tam.

Definite pitches make a dramatic appearance in the last 17 bars, with a repeated cluster in the piano bass, and various rhythmic arrangements of three chords distributed between piano, glockenspiel and tubular bells (see Figure G). However, Varese utilises the piano not as a pitched instrument but rather as percussion. Playing tonal clusters, as one author described Varese's use of the piano as "the pianist bangs out chords by plunging either two fists or both forearms across the keyboard in the lowest register."[2]

Fig. I



2 Groves Music Encyclopaedia

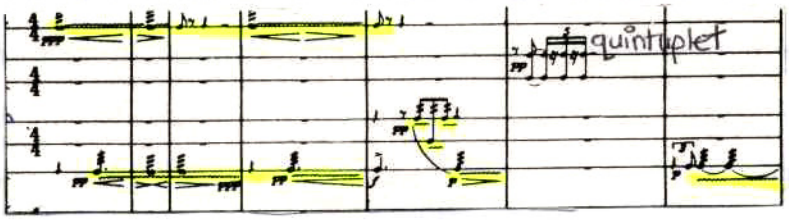
While the overall texture and timbre is climactic in character, a sense of culmination is enhanced by the parade-drum rhythm, which is fragmented, and by the appearance of somewhat of a cadence in the wood block part. With the fading of the piano and the decreasing dominance of the mallet instruments, the texture at the conclusion again suggests a texture similar to that of the opening of the piece.

This entire section, or "conclusion", is rather like a culmination of previous ideas of texture, timbre, register and pitch throughout the piece and thus collaborated to achieve the character of a conclusion or summation.

Having discussed an overview of the segments in terms of texture, timbre, register and pitch in *Ionisation,* a more detailed analysis focusing on timbral and registral modulation and "development" will give insight into how a work composed predominantly of non-pitched percussion could in fact be musical and progress in the way a conventional melodic work could.

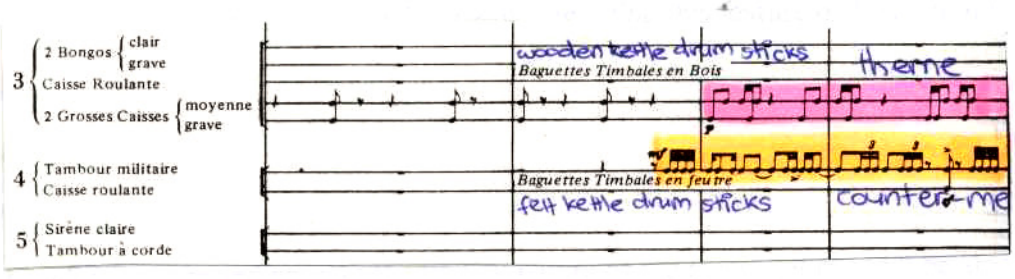
The first evidence of a modulation in timbre takes place at the end of the aforementioned section at the beginning of the piece that serves to define a new texture. The rhythmic and timbral ideas in the bongo and military drum at bar 5 is accentuated by instruments which are at the same registral level (see Figure J); tarole and snare drum with snare highlights the bongo motif, while suspended cymbal emphasises the bass drum line.

Fig. J



These drum rolls anticipate the quintuplet in the next bar which is produced the instruments possessing metallic, rattling and membranal sonorities. Following this there is simultaneous expansion in register. This brief segment was clearly orchestrated by Varese as an indication of the "progression" which is applied in the score to arrange the vast sound masses of timbre and registers. At bar 18 the continuation of a movement in maracas is transferred to the bass drum thus resulting in an abrupt reversal in both register and timbre as the tarole heightens the register of the snare drum texture and a group of high-pitched multiple-bounce instruments (see Figure A) are introduced. Therefore, as the snare sonority rises and changes quickly into an articulated wooden texture, and the rattle on maracas becomes the focus, the membrane texture recedes and its register is lowered. At bar 21 the drums take over the bongo motif, which is also the "theme" and foundation of *Ionisation*, which is therefore now being played at a lower register. Alongside this the parade drum is also dampened into a lower register with the use of felt sticks:

Fig. K



This variation and role reversal shows a highlighting of the first texture while at the same time introducing a new sonority. It also leaves space for linear developments to begin two bars later with a higher register and brighter timbre created by the introduction of the guiro and rim shots. The guiro enters here for the first time in unison with the maracas (a similar timbre) to provide a timbral and rhythmic counterpart to the bongo motif whilst adding two new layers of sound.

The bongo figure at bar 5 is most important to *Ionisation.* The result of pronouncing two drums simultaneously, it is the foundation of the work and the basis of which the idea of progression and development in the piece is based. This bongo motive (see Figure C) is transformed into the bongo figure at bar 9 where it is later on exploited by the parade and tenor drum, and from then on used throughout the piece only when unison or parallel "streams" are required to define a texture or a return to the "theme". This parameter of transformation is integral when studying in detail the complexities of the score and the conventions of rhythmic cells in terms of development and progression in the piece. Varese's utilisation of augmentation and the occasional imitative "theme" introductions (such as the bongo motif at bar 24) are excellent examples of *conventional* development technique in rhythm and in timbre to be found in *Ionisation.*

Varese's utilisation of structural principles and procedures has given form to a piece where the emphasis was on pure sound and rhythm, and has caused many to re-evaluate their definition of music through his unconventional use of instrumentation and distinct formal structures. These are evolved out of the characteristics of the instruments Varese has chosen (see Figure A). A crucial principle regarding this feature of *Ionisation* is not just the instruments used but the grouping of these instruments. They are grouped according to either the family to which they belong (within percussion e.g. membrane) or by their articulatory and vibratory characteristics, so that a group of instruments is capable of changing register and altering the timbral nature of the piece, yet can still be identified as a single part.

All of the rhythmic cells or ideas are derived from quintessential performance techniques of the instruments for which such ideas by Varese were initially conceived. The score writing for each of them utilises the instrument in the conventional way and keeps within it's traditional capacities and range. Although some of the rhythmic cells originated from these ideas can be culminated into a sequential rhythmic passage, the basic focus is more

on timbral and registral unification to produce new and identifiable textures to be used consistently throughout the piece.

While such conventions as counter-melodies (military drum) and themes (bongos) are employed Varese does however seem to generally avoid traditional counterpoints. Even when such counterpoints appear, their function is not structural but rather for the purpose of enhancing textures and timbre of the other instruments. All of these basic textures are corresponding through the transformation of timbral, rhythmic and registral motives. This contributes to the aforementioned tension and release, and growth and evolution, resulting in climactic sections throughout the piece. This sense of expansion is delicately controlled through a number of means in the score - the chosen instruments' ability to highlight changes in register from low to high, and ranges of timbre from bright to dull (e.g. snare and bass drum). The increasing and diverse rhythmic activity pertaining to these instruments also aids the transition from one type of texture and timbre in the piece to another.

Dynamics are essential for concentrating focus on the contrast or juxtaposition of the different textures, and are crucial to the understanding of the way in which timbre can take on a primary role in *Ionisation*. In the context of this composition, dynamics are used not only to add interest and variety, but to enhance, highlight and even change the timbre of the instruments and therefore the texture and sound of the piece, allowing it to progress and develop like any other conventional composition using melody or harmony as the focus.

This attempt by Varese to liberate composition from conventional melody, harmony, meter, regular pulse, recurrent beat and traditional orchestration whilst still maintaining a musical quality and the notion of a theme and development is a great success, and in its own way, highly melodic. Through rhythmic, timbral, registral and textural modulation

and development, *Ionisation* proves that a work can be musical and have a place in musical art and history without having pitch, melody or harmony as the primary focus.

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MUSIC EXTENSION – Musicology Elective

Low Band 4

Annotation – Sample 1

Title: Edgard Varèse: Ionisation

The candidate displays originality of thought in a well-defined hypothesis using challenging repertoire and sustaining the argument throughout. Valid conclusions are drawn through sophisticated discussion using appropriate musical terminology. There is evidence of extensive research that is well-integrated into the discussion. Musical quotes are wholly appropriate but the supporting musical observations sometimes become a little contrived (for example on page 10, line 3). A perceptive essay based upon independent thought.