

The Impact of Edgard Varèse's "Ionisation" on the Percussion Ensemble

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Ideas and Findings

When I was selected to participate in a performance of *Ionisation* with the SFA Percussion Ensemble, the conductor, Dr. Meyer, explained the compositional process Edgard Varèse went through in order to write the piece. Hearing this inspired me to dig deeper into the composition to discover how much *Ionisation* impacted the world of percussion. After finding out it was the first true percussion ensemble piece ever written, I was inspired to see how it shaped the world of percussion after its debut.

I found *Ionisation's* impact and influence has been monumental! This piece has left its stamp on the percussion world with its inventive orchestration techniques, simple phrase endings, and innovative uses of percussion instruments that are still used today.



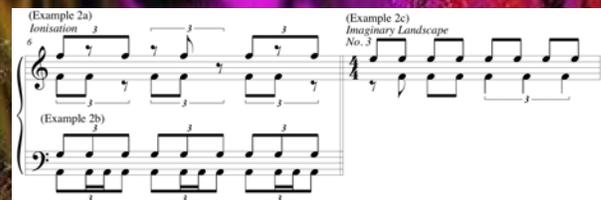
Edgard Varèse was brilliant in his orchestration techniques for percussion. In Example 1a (above) we can see that rather than having a bass drum and tam-tam play at the same time, he allows the tam-tam to play after the bass drum's initial strike. This allows for the low register of the bass drum to decay so that we can hear the full sound decay of the tam-tam has without it getting muddy. This technique was borrow by Lou Harrison in his *Concerto for Violin and Percussion Orchestra* (Example 1b).



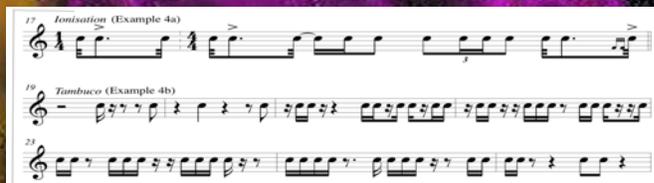
Here in Example 3a, I have grouped together all of the three-note motives that Varèse uses in this singular phrase to clearly indicate how he displaces the rhythms and increases/decreases the speed of rhythms. While there are beats that may seem out of place here, they actually fit into a larger three note motive as denoted by the notes with asterisks over them. Henry Cowell uses a much simpler technique of achieving similar concepts in *Pulse*. He trades a five-note motive between instruments and displaces one eighth-note each time. It is not until the end of this phrase we see a very quick diminution and augmentation of the rhythm.

Methodology

Researching *Ionisation* was fairly simple. I studied the score extensively and made notes about fascinating things I noticed, and then I found other percussion ensemble pieces that came after it and compared different aspects, such as textures, orchestrations, and concepts. Lastly, I made side-by-side comparisons of *Ionisation* and the compositions I believe it directly influenced.



Varèse utilized polyrhythms wisely, specifically when using them across multiple instruments and timbres. For this project, I took a simple hemiola (two pulses again three pulses in the same length of time) Varèse used and compared it to one in John Cage's *Imaginary Landscapes No. 3*. As seen in Example 2a, Varèse has a mixture of polyrhythms working across multiple instruments to create a quarter-note triplet over a somewhat duple feel. Cage takes the idea of a hemiola across multiple instruments, as seen in Example 2c, but simplifies it. He has straight eighth notes playing in one part, while the other augments a three-note motive to create a 3-over-4 beat hemiola. Varèse inverts and diminishes his rhythms to create his hemiola as seen in Example 2b.



In Examples 4a and 4b, we can clearly see the concept of ionization (an atom or molecule acquiring a positive or negative charge by gaining or losing electrons to form ions) that inspired Varèse working in both *Ionisation* and *Tambuco*, by Carlos Chavez. Varèse builds steadily upon his opening figure throughout the piece in very subtle ways as seen in example 4a. Chavez, however, takes the idea and shows it immediately in Example 4b, with each figure gaining one more sixteenth-note as it goes on.

Conclusion

While there are still a plethora of things to say about this piece, it is clear how much of an impact *Ionisation* has had on percussion music since it was written. From the way percussion instruments are used to the way writing for percussion has evolved, this composition is a clear genesis for percussion ensemble repertoire.