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**Ionisation (1931) by Edgar Varese**



## PREPARING FOR IONISATION

As I am preparing for rehearsing and ultimately a performance of *Ionisation*, I am reminded about the magnitude of the work, and more importantly, the significance it holds in our history of Percussion. A work that galvanized our medium, its brilliance and effect on us can never be overstated. The writings of Wen-Chung Chou, Steve Schick, Nicolaus Slonimsky, Pierre Grondines, and others are noted in the preparation of this task.

**EDGAR VARESE** (1883 – 1965) was born in Paris of Italian-French parents and studied principally mathematics and science at school until he was 18. He then entered the Schola Cantorum where he studied composition with Vincent d'Indy, Albert Roussel, and Charles Winor. Varese immigrated to the United States in 1915, organizing both orchestras and concert societies for new music in New York City. Many of his early works were destroyed (by fire). The significant part of his repertoire was written during the twenties and thirties: *Octandre* (1924), *Integrales* (1925), *Ionisation* (1931), *Equatorial* (1934), and *Density 21.5* (1936).

Written between 1929 and 1931, *Ionisation* (dedicated to Nicolaus Slonimsky) can lay claim to being the first composition for percussion ensemble alone. Written for 13 musicians and 39 instruments, the title refers to the ionization of molecules, mirrored by Varese in his music by the expansion and variation of different rhythmic cells. The composer championed "Organized Sound", and this piece is the first and most consummate work to explore the structural value of all non-pitch properties of sound without electronic means. In *Ionisation* more than in any other score, Varese reveals to an extraordinary degree not only his concepts and techniques but also the profundity and imagination with which he crystallizes his own ideas. In this case, hewn from raw sonic material

that offers no definite pitch or known means for development and organization. To analyze *Ionisation*, is to pave the way for understanding all of Varese's music, and to develop an appreciation of fundamental aspects of percussion ensemble compositions.

## PUBLICATION

Published 1934 by Max Eschig; 1958 by Ricordi

## INSTRUMENTATION

- player 1: Crash Cymbals and Bass Drum
- player 2: Gong (high), low Tam Tam
- player 3: 2 Bongoes and Side Drum, and 2 Bass Drums laid flat
- player 4: Tambour Militaire and Side Drum
- player 5: high Siren and String Drum
- player 6: low Siren and Slapstick and Guiro
- player 7: Chinese Temple Blocks (low, medium, high), Claves and Triangle
- player 8: Snare Drum and Maracas (both high and low)
- player 9: Tarole, Caisse Claire and Suspended Cymbals
- player 10: Cymbals, Sleigh Bells, and Tubular Chimes
- player 11: Guiro, Castanets, and Celesta
- player 12: Tambourine, low and high Anvils, and a low Tam Tam
- player 13: Slapstick, Triangle, Sleigh bells, and Piano

## CATEGORIES OF INSTRUMENTS by Chou

*Ionisation* has seven categories of instruments:

- 1- Metal (Triangle, anvils, cowbells, hand cymbals, crash cymbal, sus. cymbal, gong, tam-tams, and rim-shot (on tarole, snare drum, parade drum, tenor drum.)
- 2- Membrane (Bongoes, snare without snare, tenor drums, bass drums.)
- 3- Snare (Tarole, snare drum with snare, parade drum.)
- 4- Wood (Claves, wood blocks, slapstick.)

- 5- Rattle-Scratcher (Sleigh Bells, castanets, tambourine, maracas, guiro's.)
- 6- Air-Friction (Sirens, string drum.)
- 7- Keyboard-Mallet (Glockenspiel with resonators, chimes, piano.)

### FUNCTIONS OF THE INSTRUMENTS by Chou

All instruments in *Ionisation* are assigned one or more of the following functions:

- 1- Generating germinal ideas
- 2- Defining textures
- 3- Linear elaboration
- 4- Verticalization of texture
- 5- Delineating phrases and sections
- 6- Modulation
- 7- Providing special acoustic characteristics

### MUSICAL OVERVIEW

*"As we listen to Ionisation today at the distance of more than seventy years from its creation, we must remind ourselves of the cultural charge these sounds once exerted on the piece. Years of listening to instruments like bongos, tambourines, and gongs in the context of dozens of pieces of contemporary music by performance traditions found in Ionisation."*

(– Steve Schick, *The Percussionist's Art: Same Bed, Different Dreams*)

While thematic elements of rhythm and accent are certainly crucial to this work, the focus is upon the interplay of the sonorous aspects of percussion as structural elements. Vertical elements merge producing various densities of texture and timbre, while internal rhythmic and metric relationships as well as important changes in sonority articulate the form. *Ionisation's* own combination of instruments or range of sonority identifies each section. In addition to texture and timbre, dynamic considerations play an integral part of the piece corresponding to form. In Steve Schick's aforementioned transforming book, *The Percussionist's Art: Same Bed, Different Dreams*, he states:

*"Ionisation is fueled by interactions among groups of highly characterized, sonically distinct groups of instruments. By definition these groups demonstrate a high degree of coloristic affinity as Chou describes. But affinity is not limited to timbre alone. Timbre acts in combination with rhythmic, thematic, and cultural elements to define the identity of a given group. This creates instrumental 'groups of affinity' that are distinguished from each other by a broad reading of timbre as coloristic, function."*

Schick continues to elaborate on *Ionisation*, by which

analyzes the interactions in the piece, with his characterized 'groups of affinity'.

### FORM by Chou

- Section I - Texture I  
(measures 1 - 8)
- Section II - Texture II  
(measures 9 - 12)
- Section III - Texture III  
(measures 13 - 20)
- Section IV - Linear Elaborations  
(measures 21 - 37)
- Section V - Verticalization of Textures  
(measures 38 - 50)
- Section VI - Return of Texture I  
(measures 51 - 55)
- Section VII - Linear Elaborations  
(measures 56 - 65)
- Section VIII - Culmination of Elaborations  
(measures 66 - 74)
- Section IX - Conclusion  
(measures 75 - 91)

### ADDITIONAL FEATURES ABOUT IONISATION

Edgar Varese believed in "Organized Sound", and he gives very specific instructions on aspects of the piece, including instructions on specific instrumentation (i.e., he specifies West Indian twin drums with parchment heads, and they must be played with small wooden sticks or with fingers; he indicates the use different kettledrum sticks – skin or wooden, felt or sponge; he states using a string drum (or lion's roar)). This also extends to "a medium sized wooden barrel, with parchment head, which a rosined string is drawn..." His composition explores new and unusual sounds, and legendary complex rhythms. Further Indications include the specific use of siren, designating to not use mouth sirens; the use of a Guiro (a Cuban dessicated gourd); employing the Tarole /a flat military drum with snares, and a Cencerro. Varese expands the complexity of the composition with contrapuntal and chordal expansion of rhythmic cells throughout.

### PREMIERE

The premiere at the Steinway Hall, New York, on 6 March 1933 was conducted by Nicolas Slonimsky, a sonorous performance described by one gobsmacked critic as "a sock in the jaw." As Varese himself later explained, "I was not influenced by composers as much as by natural objects and physical phenomena." Edgar Varese also acknowledged the influence of the Italian Futurist artists Luigi Russolo and Filippo Tommaso Marinetti on the piece.

## CONTEXT

*Ionisation* is credited with being the first Western work for percussion alone. As such, the implications of the work (from the standpoint of when the piece was written) questioned the meaning of the word music, as it was understood in the Western world. Viewed historically, it is actually a return to a very ancient Eastern tradition of percussion music, particularly in the aspect of timbre. Eastern concepts of sound and Western formal concepts of structure and logic merge, resulting in a musical entity which is universal.

Bruitism, a genre of musical composition consisting of noises, comes from the aesthetic of Italian Futurism, which is explained in Luigi Russolo's manifesto *Arte dei Rumori*; however, Varese actually refuted the Futurist noise/machine ideal. The French composer's concept was that of the "process of atomic charge as electrons are liberated and molecules are ionized" (Slonimsky, *Music Since 1900*). An insight into the composer's musical thought can be obtained by understanding his conception of the growth and interaction of sound masses in space through developmental techniques such as expansion, projection, penetration, interaction and transmutation. This concept was later quite important in influencing the theories of Boulez and Stockhausen. Chou Wen-Chung (PNM, 1966) explains:

*"Sound-masses seem to emerge out of the expansion of an idea.... into the sonic space. The sense of projection of sound-masses obviously depends on the source location of the emission as well as the independent movement of each sound-mass as opposed to the other. When such sound-masses collide, the interaction tends to bring about penetration, during which certain attributes of one sound-mass are transformed to another, thus causing transmutation to take place and changing the attributes of each sound-mass."*

## PERFORMANCE HISTORY AND RECEPTION

6 March 1933-premiered at Carnegie Hall in New York City, a concert sponsored by the Pan-American Association of Composers, with Nicolaus Slonimsky conducting an ensemble that included composers and performers: Carlos Salzedo, Henry Cowell, Paul Creston and William Schumann. Paul Rosenfeld, in *Musical Chronicle* wrote:

*"Ionisation, the wonderful, terrifying new composition by Edgar Varese appears to have been not at all fantastically named by its composer. By reason of their excessive hardness, excessive indeterminacy and other points of dissemblance from the more humanly vibrating sonorities of string and wind instruments, the tones of the*

*forty-one percussion and friction pieces...in themselves do suggest the life of the inanimate universe. The illusion, if illusion it be, of an analogy between the music and events or processes in the physiochemical fields, is re-enforced by the volumes of the extremely simplified, skeletalized form, which explosive, curiously timed and curiously responsive to one another, further suggest incandescent manifestations of material entities in space.... The new work is a complete if singular piece of music: as complete as any of the best of its prodigious elder brethren, Varese's compositions for mixed orchestra; to members of what will vulgarly be called Varese's clique..."* (Oullette, 1966)

However, not everyone had as much insight about the piece as Rosenfeld, as an excerpt of a critique of the work indicates. *Musical Courier*:

*"Varese's latest effort... contains almost nothing of traditional tonal quality, being scored for various Gattling gun species of percussion, a dolorous and quaintly modulated siren, sleigh bells and an ingenious instrument that imitated the voice of an anguished bull...."*

## SELECTED NOTABLE PERFORMANCES

April 1933-conducted by Nicolaus Slonimsky in Havana, Cuba

July 1933-conducted by Henry Cowell in San Francisco.

15 April 1934-conducted by Nicolaus Slonimsky at New York's Town Hall

4 June 1951-conducted by Scherchen at Darmstadt Festival. First broadcast performance in Britain

22 December 1960-conducted by Frederic Waldman at a concert given in Varese's honor at the Grace Rainey Rogers Auditorium in the Metropolitan Museum of Art

9 February 1983-conducted by Frank Zappa in San Francisco at a concert honoring Varese and Anton Webern

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