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Elements 7

azote

Oscar van Dillen

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Elements 7: N

Elements 7: Azote is the fifth album in a series of music on the Elements, a large work in progress consisting of electronically/digitally created architectural music compositions by Oscar van Dillen. The work on this album was composed February-May 2022.

All works, cover art and booklet of this album were created by Oscar van Dillen.

The other albums in this series so far are:

- Hydrogen Deuterium Tritium
- Oganesson
- Carbon
- Oxygen – Ozone
- Silicon

Tracks

1. Azote – section 01	07:15
2. Azote – section 02	06:11
3. Azote – section 03	07:08
4. Azote – section 04	06:26
5. Azote – section 05	06:41
6. Azote – section 06	09:32
7. Azote – section 07	09:57
8. Azote – section 08	09:55
9. Azote – section 09	04:25
10. Azote – section 10	07:46
11. Azote – section 11	08:16
12. Azote – section 12	08:22

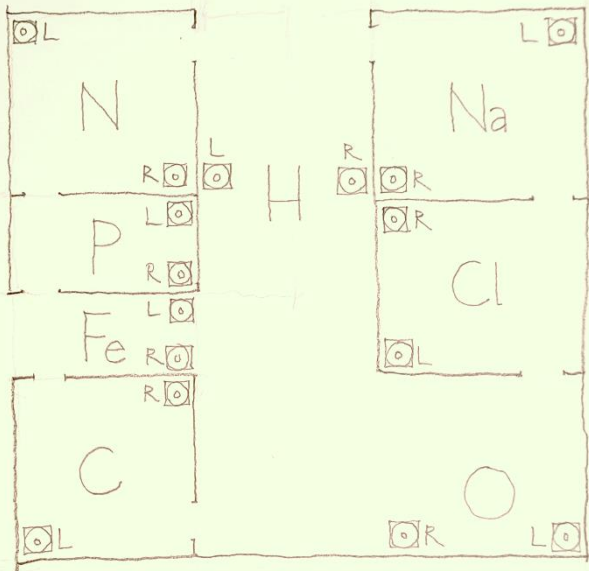
Total duration: 1:32:00

Ways of Listening to the Elements

The series *Elements* consist of digital compositions which have a more static, installation-like character, crossing the border between musical and spatial composition, linking up music and architecture, both arts concerning Space. It is a remarkable feature of human anatomy that the inner ear is the organ that perceives sound as well as space. Inside in the *cochlea* resonating crystals distinguish the frequencies within sound. Outside on top of the same organ there are the three half-circles of the *Labyrinth*, perceiving spatial movement along an XYZ axis system. The direct perception of 4-dimensional space-time itself can be seen in this essential part of our anatomy: one organ handling perceptual elements of both space and time in unison.

Space, in the perception of XYZ orientation on the inside of the *Labyrinth*: spatial movement and balance. Time, or rather the inverse of time in Hz and frequency cycles/s in the perception of pitch on the inside the *Cochlea*.

Van Dillen's compositions in the series Elements can be listened to in several ways. Traditionally these are: privately over loudspeakers or headphones, or in a concert situation, that somewhat awkward setting where a group of interested people are sitting immobile and listening to what comes out precorded out of a professional loudspeaker system, with no apparent performers in sight. Each of the Elements is created to be able to stand on its own, as a deeply composed and serious work of art, to be enjoyed on its own. Yet the Elements series as a whole has also been conceived to work and sound together as a larger ensemble: a potential meta-symphony of works, to be exhibited and enjoyed in an architectural sound installation of a variety of Elements set to play on repeat. For installation playback of the series Elements, van Dillen proposes this option of creating simultaneously playing (looping) versions of various Elements widely spaced apart over a large space or several neighbouring spaces. Listeners could actively move around through the music or choose to linger or sit in certain spots for some time.



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Also at home, a smaller version of an installation can be realized by playing several (looping) compositions in adjacent rooms, so they somewhat overlap and audibly interact. The only thing needed is one playback device per home installation element.

It is the composer's wish that he himself as well as others will be able to create an ever-evolving range of different choreographies for various architectural installation performances of these works in the future, of diverse sizes and durations, ranging from the very intimate to the truly monumental and in everything between.

If such architectural installations would be placed in a museum, they would allow interaction with visual arts as well, but they could also be put in very dark settings.

Meanwhile at home, the listeners are challenged to DIY DJ and mix two or more of these compositions and turn one's home into a personal theatre or museum.

A degree of inclusion of the listener into the process of creation can thus be achieved.

Elements of both Music and Chemistry

The Elements referred to in the title are obviously the chemical elements: the very first of the periodic table of which is Hydrogen with its remarkable isotopes Deuterium and Tritium, the only isotopes with their own chemical abbreviation. Less obvious from the titles is the use of Elements of Music, as described in his original approach to composing: his *method* (not a system) of *prepositional analysis*, developed from 1998-2011 by van Dillen.

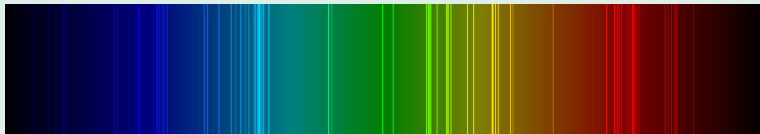
Prepositional analysis is a new approach to the creation and analysis of music, not restricted to any style or vocabulary, but based on how humans hear music and perceive its elements Sound and Silence in interaction. Sound manifests itself in spectrum, time, and space, and from this observation 5 categories are derived, which sum up to 6 with silence included. These both include and transcend Stockhausen's 5 dimensions of sound (pitch, duration, volume, timbre, and place). Based on the interactions a set of 22 prepositional analytical concepts is postulated, for use in creative composition or analysis.

These elements of music have in fact been used for a longer time and some if not all of them can be found in music history. In the work on this album, they are used to create new music inspired by the chemical elements. The chemical elements being such basic building blocks of matter, represent the basis for every existence, and for life. By means of Mendeleev's system for natural matter, and thus for material nature, van Dillen ventured to compose his meta-symphony *Elements*.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1 H																	2 He
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba		72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra		104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og
				57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu
				89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr

Azote

Azote (Ἀζωτο) is the original Greek name given to the 7th element in the Mendeleev system by the famous French chemist Antoine Lavoisier in the 19th century, to denote opposite properties compared to Oxygen. We breathe Oxygen, and life depends on it, but we cannot breathe Nitrogen, as it will suffocate living beings. Hence the name *a-zote*, literally meaning not-living. Although the name has become practically obsolete in English (similarly *Nitrogène* has become unusual in French), Lavoisier's choice is still used in French, and derivatives of its meaning *non-life* are found in German and Dutch, which both speak of a *suffocating substance*, *Stickstoff* or *Stikstof*. Variations on the name Azote can be found in many languages, such as Slavic languages, all over the world. Nitrogen's varied pattern of spectral lines is given below.



Nitrogen

Nitrogen is abundant in the Cosmos and also in the Earth's atmosphere. In its gaseous form N_2 , also known as *Diazote*, it makes up for 78% of the air we breathe. On Pluto plains of solid Nitrogen have been photographed. As an odd numbered Element, it is surprisingly stable and has a large number of isotopes. Although it was named after the opposite of life, Nitrogen and its cycle from air to plants to soil play a vital role, and its fixation into Ammonia NH_3 and its acid amino ion NH_3^+ is essential for creating the building blocks of all life: the amino acids, building blocks of DNA, which all have in the backbone Hydrogen, Oxygen and Nitrogen. The title of the music was deliberately chosen to denote a paradox: the abundantly present atmospheric Nitrogen is truly Azote, the suffocating gas, but the compounds of the same element in the soil are life-giving.

Nitrogen is at the core of DNA, but it is also at the core of explosives, of Nitroglycerin $C_3H_5N_3O_9$ of Nobel's Dynamite, and thus of modern warfare and Peace Prizes. Indeed there is no life without death, and no death without life.

Making of Azote

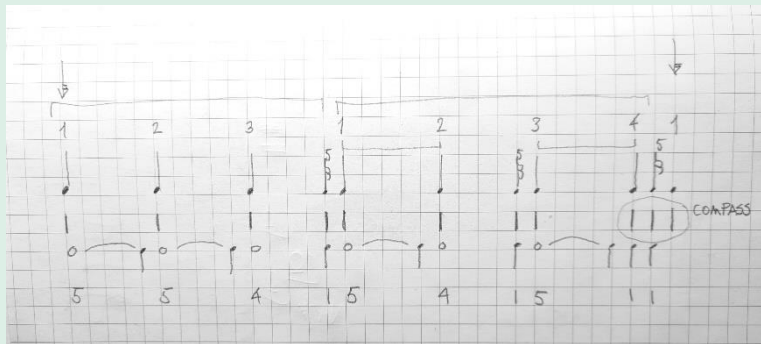
At the heart of the creation of the music lie the modular setups used to perform the raw audio. Modules inspired by Buchla systems form the core of most of the mid and higher register audio, and a rhythmic layer was added. All these were processed to modulate each other.



Voltage modular provided the framework to create the raw sound for the music, the image below is another one of the setups used. The semi-generative patches were performed, and the audio was recorded, layers of which were processed and mixed and re-layered and processed and mixed again, with layers modulating other layer's behavior, and all this many times over.



The rhythmic basis is revealed by the sequencer in the image above: 5+5+4+1+5+4+1+5+1+1. This gives an overall impression of $3 + 4 = 7$ large beats yet subdivided in such a way that each consists of 5 faster particles, yet in a shifting way fitting an overall total of 32 subdivisions, accounting for a polyrhythmical feeling throughout, in which a faster 4 and 5, and a slower 7 sound throughout. On top of this, the beat layer is present in a basic tempo of 36 bpm but appears also in 2 diminutions (not all at the same time) of 72 and 144 bpm. The returning rhythmic turnaround of 3 consecutive faster beats at the end is a clear compass.



Symphony or Soundscape

One of the main aims when creating Azote was to create a music in which sounds move musically, and where the pitches are not the necessarily most important sound aspects, but sound, register and dynamics are, and it was composed so that each sound has its own sense of space with it. Also sometimes these spaces move independently within the music, allowing for sounds to enter and sound in these spaces. Thus beat becomes breath, or the lack of it.

Although at first hearing it appears that rhythm is the main musical area explored, deeper listening reveals that the music is happening within the virtual spaces created by what we can call breathing rhythmic bubbles of sound.

The importance of the sense of architectural space gives Azote aspects of soundscape, but the fact that these spaces are formally treated and move about in an overall very rhythmical way, points again to a possible symphony. But these are mere words, insufficiently able and possibly obsolete to describe let alone categorize this music.

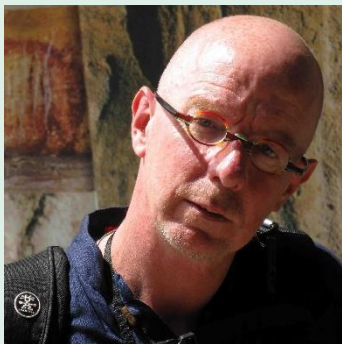
Software

A note on contemporary hard- and software: the music was produced on a significantly upgraded Asus laptop, with Arturia's Audiofuse Studio sound interface, and two different sets of monitor speakers for reference, one by Adam audio and one by Tannoy. For the more surgical sound design work, professional open AKG reference headphones were used.

On this album the composer used professional software by (in alphabetical order) Arturia, Brainworx (Plugin Alliance), Cherry audio, Eventide, Fabfilter, Hornet, iZotope (Plugin Boutique), Newfangled audio, PSP, Sinevibes, Softube, Steinberg, UVI, and Voxengo.

Oscar van Dillen

Oscar Ignatius Joannes van Dillen ('s-Hertogenbosch 1958), is composer and performer of music, professor of music at Codarts University for the Arts in Rotterdam, as well as visual artist. A polyglot and an erudite world citizen, he is also one of the pioneers from the early years of Wikipedia, having been founding president of Wikimedia Nederland and serving as a trustee of the Wikimedia Foundation. Van Dillen has studied a wide variety of musical traditions with many renowned teachers. His music education having started at the age of 7, performing both classical and rock music in his youth, van Dillen first studied North-Indian classical music (sitar, tabla, vocal) with Jamaluddin Bhartiya at the Tritantri School in Amsterdam and bansuri with Gurbachan Singh Sachdev at the Bansuri School of Music in Berkeley, California. Next, he studied classical and jazz flute at the Sweelinck Conservatory in Amsterdam. He took composition lessons from Misha Mengelberg. As a flutist, he was taught by Lens Derogée and Dieks Visser, and followed masterclasses from Pierre-Yves Artaud, Geoffrey Gilbert and Barthold Kuijken.



After his following postgraduate studies of medieval and Renaissance music with Paul Van Nevel in Leuven (Belgium), he studied classical and contemporary composition with, among others, Dick Raaymakers, Diderik Wagenaar and Gilius van Bergeijk at the Koninklijk Conservatory in The Hague, with Klaas de Vries, Peter-Jan Wagemans and René Uijlenhoet at the Rotterdam Conservatory and with Manfred Trojahn at the Robert Schumann College in Düsseldorf, where he also received lessons in conducting from Lutz Herbig. As a composer he furthermore followed masterclasses from, among others, Isang Yun, George Crumb, Jan van Vlijmen, Marek Stachowski, Zbigniew Bojarski and Gerard Brophy.

A founding member of the Rotterdam School of composers and the author of its manifesto, he currently works as professor of music at the Codarts University of the Arts Rotterdam since 1997, teaching composing, arranging, world music composition, music history and music theory in the Jazz-, the Pop-, the World music, the Classical music, and the Music Education Academies of Codarts.

Oscar van Dillen is the inventor of *original world music composition*, combining strictly composed with improvised classical and folk traditions, and their techniques and mentalities for creating music: a new and contemporary form of art music.

Van Dillen is founder, composer, and artistic director of the Olduvai Ensemble for which he especially creates original world music compositions.

He is a member of Nieuw Geneco and the Dutch-Flemish Society for Music Theory. As of 2020 his scores are published by Donemus, of which he is a board member since 2022.

Next to his fulltime work as composer, musician and pedagogue, van Dillen is also a visual artist. As composer, he has been a regular member of various juries, among which the composition prize juries, in the Val Tidone Festival Competitions, since 2013.

Oscar van Dillen's personal website: www.oscarvandillen.com

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Nitrogen spectral lines by Wikimedia Commons CC0 1.0 PDD

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music is sound and silence



The word 'DONEMUS' is rendered in a bold, white, sans-serif font. Each letter is partially overlaid by a thin, vertical white line that extends from the top to the bottom of the text area. The lines are positioned behind the letters, creating a layered effect. The letters are: D, O, N, E, M, U, S.

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