



Elements 8

oxygen - ozone

Oscar van Dillen

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Elements 6: O₂ – O₃

Elements 6: Oxygen - Ozone is the fourth 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 works on this album were composed October-December 2021.

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

Total duration: 1:56:02

Tracks

- | | |
|-----------|-------|
| 1. Oxygen | 58:02 |
| 2. Ozone | 58:00 |

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.

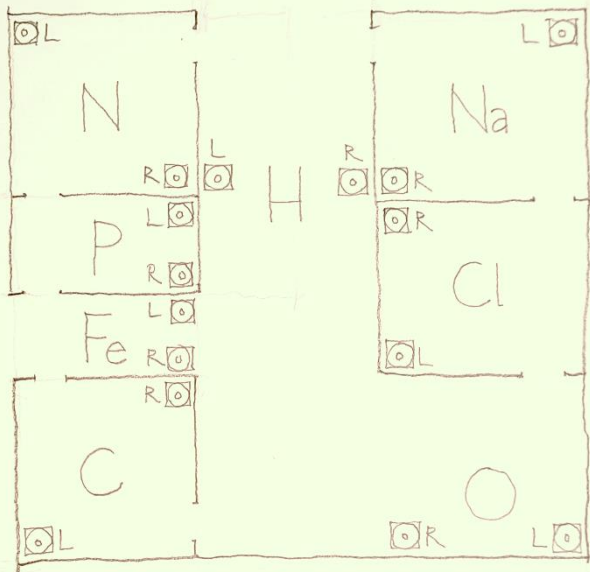
The direct perception of 4-dimensional space-time itself can be seen in this essential part of our anatomy: one organ handling perceptual elements of both space and time in unison.

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.

Oxygen

Oxygen is all around us: surprisingly, it is even the most abundant element on our planet. But the free, breathable oxygen O_2 found in the Earth's atmosphere, without which human and animal life would be impossible, has not always been here; it has been freed from its stable compounds by plants, mostly by algae, long ago. Early Earth saw all its oxygen bound to other atoms, mostly Iron (Element 26 Fe), still found in ochre and brown rocks. Oxygen is a very reactive element, and therefore easily and readily forms its stable compounds, which last long and are hard to break down. Early life found a way to accomplish just this, and thus plants evolved, breathing out free oxygen as a waste product. Over time, in the course of many hundreds of millions of years, this freed oxygen filled over a fifth of the atmosphere and became so abundant up there that it started to even form a layer at its very top, at the boundary between air and outer space. In this topmost layer, the O_2 molecules changed into O_3 as a result of the abundant ultraviolet light from the

sun, and in this way the upper layer of oxygen both absorbs this harmful frequency and, at the same time, protects multicellular life below, in a constant process of creating this form of oxygen O₃ called Ozone.

Oxygen atoms themselves are much older than Earth, though younger than the Universe, as opposed to Hydrogen, the only element created at the Creation. Atoms such as oxygen have been created billions of years ago in the explosions of supernovae, before being hurtled into space, some of it ending up on planet Earth.

The music of Oxygen as composed by van Dillen has been created with modular synthesis, examples of which show the two images further down. A number of unique and original instruments called patches have been created, on which the music was performed. The images have been taken in a night view, highlighting the many lamps showing voltage activities in the circuitry, referring with a witty wink to the customary working schedule of a typical composer: mostly at night, when "normal people" snore, and the world is much more silent (Winterreise: Im Dorfe).

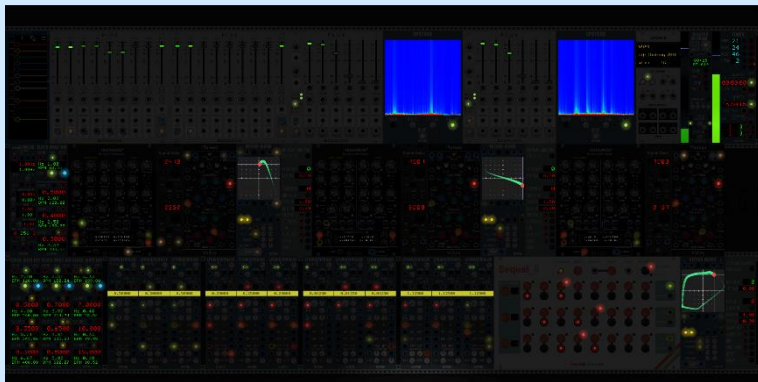
This modular instrument is responsible for a polyphonic layer in the music, but the expert eye can perhaps discern it is in itself already containing at least 3 layers of sound, and more layers even of rhythm, of timing, and of various forms of feedback modulation.



In this image the many connecting cables have been hidden from view, but the red and green lights still show the voltages and their polarities, as blue shows time paths.

Ozone

Both the music of Oxygen and Ozone make use of similar patches (modular instruments), but Ozone adds a layer of heartbeats to this polyphony, its modular setup being shown in the next night-view image.



In the summer 2003, when camping near the seashore, van Dillen and his wife woke up in the very early hours of dawn by an approaching very large thunderstorm which

sound like a host of timpani players performing a very long crescendo of over one hour. Van Dillen tried to record the unbelievable sound from his tent, but his minidisk player typically malfunctioned in these moist conditions.* It is however from this memory that the complete lower register of this entire album was conceived.

It is no easy task to maintain transparency in music when there is such density of low to very low register sounds, yet such was its original inspiration, and the listeners can perceive this imagined auditive thunderstorm, or call it fireworks, as Oxygen is responsible for Fire too.

What we call fire, is in fact the violent reaction of elements or compounds with oxygen in the air. Burning a substance

* Does anyone today still remember the Minidisk player? It was an at the time cheaper digital recording means than the DAT digital audio tape, using small CD type disks, both successors of the audio cassette. The Minidisk was a rip-off to creators of music, not just from the above mentioned malfunctioning point of view, but also and especially as its DRM digital rights management system prevented one to store or copy one's own original music recordings.

is nothing more, nor less, than a chemical reaction, one all of us perform on a daily basis. For centuries, this chemistry was considered to be an element, a mythical precursor of oxygen itself, which is of course the true culprit of burning.

Human life burns a lot of fuel, both in our bodies and in our factories, and both emit a lot of carbon dioxide. This is the exact opposite of what algae and plants in general do: plants and algae burn carbon dioxide, emitting oxygen. One wonders why we cannot have more artificial “plants” (this is what we call our *factories* no less, *power plants* being an example) burning carbon dioxide instead? This would potentially solve our most urgent environmental problems at a single stroke.

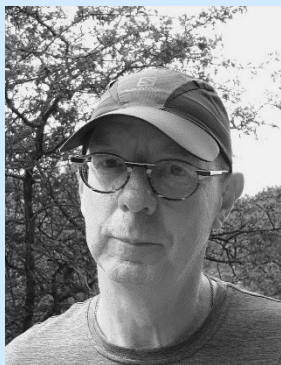
As the numbers 2 and 4 are found in our bodies, in patterns of crawling, walking, running, dancing, so the numbers 3 and 5 can be observed in our breathing and heartbeat rhythms. This 5-beat pattern, consisting of a minim and an accented dotted minim, is the rhythmical cell used in the many layers of Ozone’s slowly evolving beat patterns.

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 and 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.

He is also founder, composer, and artistic director of the Olduvai Ensemble for which he created original world music compositions.

Van Dillen is a member of Nieuw Geneco and the Dutch-Flemish Society for Music Theory. As of 2020 his scores are published by Donemus. He collaborates with Donemus in publishing his recordings on OIJ Records.

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 yearly composition prize juries, in the Val Tidone Festival Competitions, since 2013.

Oscar van Dillen's personal website can be found at www.oscarvandillen.com

OIJRECORDS can be found at www.oij-records.com

Donemus and Donemus Records can be found at donemus.nl

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music is sound and silence



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