

# ZONES OF DEPTHS

Concert / immersive environment  
by Kasper T. Toeplitz

Live electronic music, acoustic and electric instruments,  
electronic images and lights

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# ZONES OF DEPTHS

Modular score  
and presentation

composition **Kasper T. Toeplitz**

production **Art Zoyd Studios**

with **Kasper T. Toeplitz** ,  
**Didier Casamitjana**,  
**Brice Catherin**



## ZONES OF DEPTHS

- > A musical proposition which is half concert and half a "live" installation: almost in a "nowhere", where the usual separation between audience and performers is abolished and the two are on the same level, close together.
- > The music performed live by a small ensemble of amplified and spatialised instruments is superimposed on a dense electronic sonic texture, also generated (played) in real time.
- > The venue is plunged into a semi-darkness in which fragments of electronic images or flashes of light, also generated in real time during the performance, sparkle like instruments in their own right, only silent ones.
- > A moment of floating senses, almost of stasis, freely inspired by the idea of underwater «mesosphotic zones».

## INSPIRATION PRETEXT

The primary inspiration for the general «atmosphere», the very idea for this musical project, comes from my imaginary world of underwater spaces, in particular «mesosphotic zones», i.e., the shallow areas, down to a depth of about 150 metres, where light still reaches, albeit with great difficulty, and which are still poorly known and rarely explored.

A mesophotic coral ecosystem is located in the low light, still in photic zone, and above the aphotic zone in the water column. Mesophotic reefs are found in tropical and subtropical regions at depths ranging from around 30 metres to over 150 metres below the ocean surface. The dominant communities providing structural habitat in the mesophotic zone are corals, sponges and algae.

Little is known or understood about these ecosystems because, until recently, studies were hampered by insufficient technology. The upper limit of mesophotic coral ecosystems coincides with the diving limit for conventional scuba diving (40 metres), but it is too shallow and expensive for most deep diving technologies, such as remotely operated vehicles and submersibles, to work. Underwater technologies of the last decade now make it possible to study these ecosystems.

This original «impulse» has led to a performance/concert/installation project consisting of:

- A dimly lit «zone» where images and luminescence shimmer, and where sounds, both electronic and instrumental, intersect, sometimes heavy and deep, but with the occasional appearance of high-pitched harmonics, or furtive sound clouds, akin to breakthroughs of raw luminosity. A climate of slowness, almost static at times, but sometimes torn by sudden tempests.
- A rather dark space, in which the usual separation of stage and audience is abolished.

The arrangement of instruments and loudspeakers as 'islands' modifies the listening conditions: a form of spatialisation of sounds, both acoustic and electronic.



# MUSIC COMPOSITION

Since the early 21st century, the involvement with computer music has profoundly changed my vision and approach to music (as a composer as well as an instrumentalist). As an associate composer with Art Zoyd Studios since 2019, this vision has continued to grow to the point where I now advocate «electronic thinking» as a major line of my work:

- whether it be the writing of the music, based on the superposition of several times and temporalities, the use of random/aleatory functions, the use of strategies that only computers allow (artificial intelligence, the use of digital neural networks or the simulation of the behaviour of swarms of birds or shoals of fish).
- simultaneously, my work on the hybridisation of traditional instruments by computer and electricity is a constant in many of my pieces, which opens up different sound worlds and new possibilities, and shifts their organological constraints.

*DEPTH ZONES* aims to explore both sides of «electronic thinking»: to be a «purely electronic» composition played and synthesised in real time, in the moment of the concert, but cohabiting with scores for more traditional instruments and their hybridisation by electricity.

The instrumental parts will be scored for a small ensemble consisting of musicians with whom I have been able to test both personal and artistic affinities:

\_Didier Casamitjana plays percussion, especially monumental percussion, such as symphonic bass drums, tams and gongs, but also percussion that are amplified and treated in the manner of electric guitars, using effect pedals. He also plays various «electronic pads», which allows him to incorporate purely electronic sounds into his instrumentarium.

\_Brice Catherin, who plays various cellos (from baroque 5-(gut) string cello to «classical» cello, acoustic or amplified, electric cello and even electric bass-cello), all of them «augmented» by electronic processing (digital re-synthesis, written in MaxMSP language)

\_Kasper T. Toeplitz (myself), will not only compose the music, but also play electric basses, connected to the computer and the MaxMSP program, as well as bass-cello. For this project, a new custom-made electric bass offering new possibilities of expression, such as theorbed strings, has just been built by the luthier Philippe Dubreuille. My instrumentarium will be completed by a real time sound synthesis device, implemented in the computer (again in MaxMSP).



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# DETAILED PRESENTATION OF THE COMPOSITION

The process of composing DEPTH ZONES is probably the most complex of those I have approached during my 30-plus years of compositional practice, a kind of synthesis of various sound worlds I have explored but also a will to transcend their usual boundaries. As stated in this text, it is a loose evocation of the mesophotic underwater zones, therefore a composition with several layers (of different natures - instruments, electronics, lights) evolving freely, which can be autonomous yet linked by a similar temporal flow, albeit at different speeds. The other challenge with this composition is to imagine a «modular» presentation of the score, that is, dependent on both the architecture of the venue (which in principle won't be a usual frontal vision/hearing) and certain «decisions» or «orientations» taken by the electronic layer of the music, which while not necessarily being artificial intelligence, nevertheless has a certain structural flexibility.

**\_TRADITIONAL INSTRUMENTS** are all linked to computer hybridisation systems that act directly on the sonorities produced but also displace the usual organological limits of the instrument. Examples of such processes can be found in many of my recent compositions, such as making a saxophone fully polyphonic, with an autonomous polyphony of up to 24 channels [in [Erosions Programmées](#)] or a polytimbral harp [in [Convergence, Saturation & Dissolution](#)]. Also worth mentioning is the mixture of acoustic and electronic sounds coming from the same instrument [the percussion in [Reflux Reformation](#) or the flute in [Secteurs D'interférence](#)]. In this work, the main idea is not so much to write for given instruments as for the musicians themselves, thus attempting, through the use of real-time electronics, to go beyond the organological limits of these instruments (hence the emphasis on polyphony, poly-timbrality and an increase in possible sound textures). It is clear that it is not only about «adding effects» to the sounds but about modifying the instrumental gesture itself, in harmony with the instrumentalist: thus if the computer program applied to the instrument is for the most part written by myself (or, in the ZONES project, with the help of the CMP, computer music producer, of ART ZOYD Studio), it is necessarily validated, and its construction oriented, by the feedback of the instrumentalist, who is tasked with integrating it as a full instrument.

The instruments involved here are:

**\_Cellos** (baroque, traditional, electric and bass) played by Brice Catherin

**\_Percussion** (mainly tams and gongs, electrified or not, electronic pads and found objects) played by Didier Casamitjana

**\_Electric basses** (5-string fretless, including a new bass recently built by luthier Philippe Dubreuil - all of them connected to a MaxMSP patch), played by Kasper T. Toeplitz

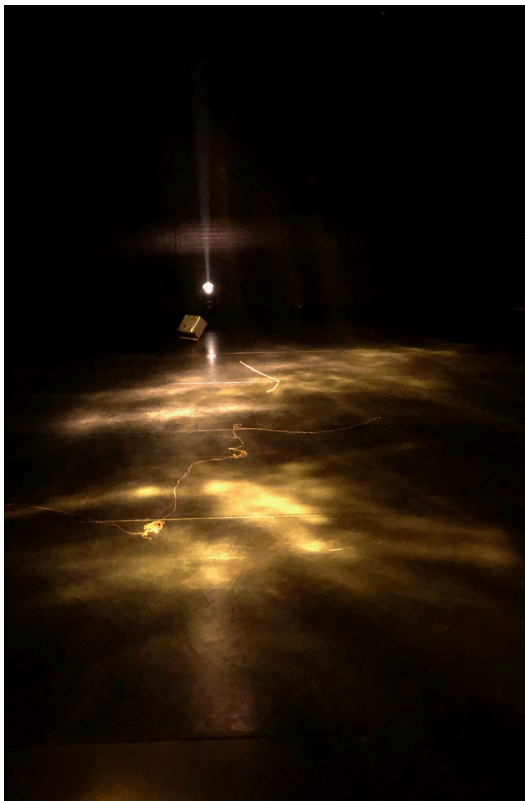
**\_THE ELECTRONIC LAYER**, which is present for most of the piece's duration, but with varying degrees of perception (at times almost imperceptible, at others largely dominant), is a generative «engine» that does not use pre-recorded sounds, but generates them all as they are played, thereby promising variability, an idea of interpretation, at each repetition, just as a traditional instrument allows. This is a way of playing electronics that is dear to me, and one I have explored at length, notably with my computer trio, [KERNEL](#), but also in other compositions, such as [AMAS](#). This electronic layer can also 'make decisions' (or rather vary its own behaviour) during its execution, as is the case for [ASCENSION IN NOISE](#). This electronic layer is the musical heart of the composition, so much so that I would like to imagine a reduced version of DEPTH ZONES consisting only of this part accompanied by lights, without any added traditional instruments, a sort of real-time installation, as this electronic part is always played by a musician (myself). Technically the electronic part is written (or programmed) by myself with the help of Patrick Delges, CMP at Centre Henri Pousseur, essentially in the MaxMSP language but not limited to it - I like to use a mix of synthesis technics in my electronic compositions. I am also thinking of adding one or more synthesizers, knowing that my preference is for digital rather than analogue processes - again for the sake of depth of sound textures.

Obviously, since purely electronic sounds have no physical source of their own (purely «acousmatic» sounds), there will be a multipoint writing of the spatialisation of this layer. This spatialisation will be carried out by Zak Cammoun.

LIGHT is the third instrumental layer which makes up this music, although it is a silent one: I consider this layer as having a «counterpoint» relationship with the sound parts, and imagine them continuing, in a solely visible way, the musical gestures. The perceptions of those images and sounds will create false reactions, correspondencies, a landscape of synchronicities. The conception of this structure of images, of the immersive video-world will be done by the video-artist Gilles Paté, who will make most of the images, even if some of them can be out of other sources such as pure algorithmic generation, images with no other source than pure mathematicla equations. My own experiments in this area were carried out in the show EVAPORATION ([here](#) et [there](#)).

Light of a more traditional nature designed by Sophie Lepoutre will also be used through DMX programming (again in MaxMSP) which may match, or be at odds with, the sound and visual elements of the set.

And so the composition of DEPTH ZONES encompasses these three main chapters which are the instrumental composition, and instruments «augmented» by electronics, the composition/programming of pure electronic music as well as the programming of images/lights. Three levels of writing to convey the idea of a journey through underwater strata.



Essai de lumière - Sophie Lepoutre

# MODULARITY

The project in its finished form, consisting of three musicians and an immersion in light and images, will be premiered in early 2024 (March 13th) at Le Phénix, scène nationale de Valenciennes.

This form will be a culmination of sorts, but I like to think of this score as a living form, therefore subject to change, like an ecosystem that can adapt to its environment.

So, depending on the place and the occasion, I plan to show more compact forms, stemming from the same matrix, like dives into other waters, aimed at observing other details and bringing forward different listening points.

These could have different instrumentariums, be rearranged for duets or trios, or even a full electronics version, a video environment with only the electronic layer of the music.

This modularity of the composition aims, on the one hand, to be able to adapt to different environments, to the specific constraints of various venues, but also, above all, to test the various facets of the composition as a whole, to examine its finer details, provoke other sonic alliances, in a word gain in organicity, in life.

The same matrix (the work as premiered in early 2024 at Le Phénix) might evolve over time.

# SOUND SPATIALISATION

The sound spatialisation must make the sound shifting, almost unstable – it's not about building a FOH (front of house) sound projection, but shimmerings, at times uncorrelated from the sources, at others surrounding the acoustic instrument with a halo. This spatialisation will obviously be adapted to each performance space, its acoustics as well as its architecture, mixing «discrete» sounds with much more «obvious» ones. The tool allowing this specific spatialization will be developed jointly by Zak Cammoun, who will be tasked with playing this instrument, and the CMP of Art Zoyd Studios, Oudom Southammavong.



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# IMAGES LIGHT

The proposed images do not serve a narrative, their function is to create this impression of a mesophotic underwater «landscape» through which light only partially passes.

These images are of two kinds: one is filmed and reworked images, and the other is purely generative images, constructed by the computer from equations.

These images will be projected both on monitors placed in the audience, and on the walls via video projection.

All these video images will be manipulated or generated in real time during the performance, like a musical instrument.

These fleeting and hesitant light sources may be mixed with more conventional lighting, controlled by DMX, by flickering neon lights and sometimes very raw lights, sometimes correlated (via computers) to musical movements. This immersion in images is conceived by Gilles Paté, when the lights are designed by sophie Lepoutre.

## QUELQUES LIENS EN RAPPORT AVEC LE PROJET :

[Kasper T. Toeplitz's webpage](#)

\_Examples of compositions for electronically augmented instruments

- [Convergence, saturation & dissolution \(harpe\)](#)
- [Programmed erosions \(saxophone\)](#)
- [Arche \(SOLO BASS\)](#)
- [Tam évaporé \(percussions\)](#)
- [Cello Titan \(electric cello\)](#)
- [Ruptue & Dissipation \(ensemble Phoenix\\_Basel\)](#)
- [Vents stellaires \(ensemble Zinc&Copper, Berlin\)](#)
- [Evaporation Impaire \(bass and percussions, Paris\)](#)

\_Musique purement électronique / installation

- [Amas \(video by Daria Gabriel\)](#)
- [Ascension in noise \(choreography by Myriam Gourfink\)](#)

\_Exemples de vidéos interactives avec la musique

- [Naines Brunes](#)
- [Evaporé N°4](#)
- [Evaporé N°3](#)
- [Data noise](#) (generative video)



### KASPER T. TOEPLITZ

As a composer and electric bass player, Kasper Toeplitz has developed his work in the no man's land between "academic" electronic composition (orchestra, ensembles, opera) and noise music. He works as much with major state institutions (GMEM, GRM, IRCAM, Radio-France) as with experimental or unclassifiable musicians such as Eliane Radigue, Zbigniew Karkowski, Dror Feiler, Phill Niblock, Z'ev or Vomer, among others. He often collaborates with contemporary dance and his music is performed - whether in solo concerts or by various ensembles - throughout Europe, North and South America, Asia and Australia. Since 2019 he is Associate Composer at Art Zoyd Studios.

### DIDIER CASAMITJANA

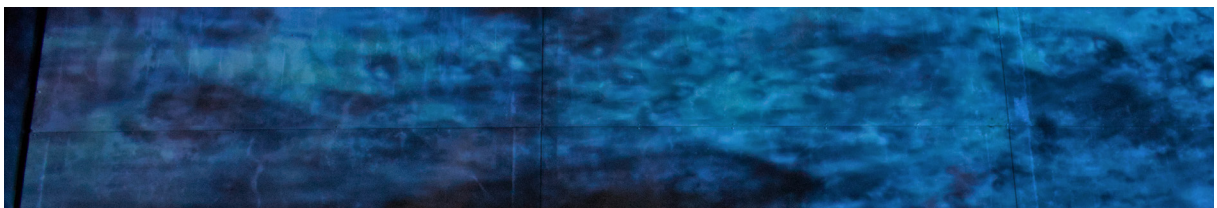
A percussionist with training in both classical and contemporary music, he has been involved in numerous cross-disciplinary projects in the performing arts, dance and theatre, and in contemporary music, and has written numerous stage scores. Since 1989, he has premiered numerous pieces by Kasper T. Toeplitz as a percussionist. He founded the collective Wooshing Machine - Brussels with dancer Mauro Paccagnella. Following a project around gongs at the Espace Pasolini in Valenciennes, he launched his Gong Bath project with sound therapy, relaxation sessions using the sounds and vibration of gongs and solo concert playing gongs.

### BRICE CATHERIN

Only at the age of 36, after having composed nearly 80 pieces, been on stage as a performer and improviser, and while working on his doctorate in composition, did Brice Catherin realise that music was less important than love. Therefore, he decided to dedicate himself to the latter and since then has been producing, in the form of consenting collaborations with his good friends, intermedia items, art performances, poetry and visual art.

### GILLES PATÉ

After studies in beaux arts of Paris, 1994, Gilles Paté visual artist and video-maker directs films about music such as «Sound system créole» 2005 «Corps sonore» 2016 «Matière à composer» 2023 but also experimental images filmed through microscope, «Music for 88» with Tom Johnson «Hear the children sing» Lungfish, «Thrones and dominions» Earth and more conventional documentaries about musicians, «Eliane Radigue le labyrinthe sonore» 2015 «Movement of people working, Phill Niblock» 2015 «Monument therapy, Krzysztof Wodiczko» 2016 He also teaches at the architecture school of Versailles



# ART ZOYD STUDIOS

Based in Valenciennes, Art Zoyd Studios is a Centre for Musical Creation.

Through residences, the centre encourages the conception and realisation of new musical works, ensures their dissemination, and contributes to the development of musical research.

Playing new instruments, discovering new musical forms, creating, listening, and exploring sounds are the core of Art Zoyd Studios.

It was founded in 1999 by Gérard Hourbette and Monique Hourbette-Vialadieu. It bears the name of Art Zoyd, a progressive rock band that Gérard Hourbette led until his death in 2018 (with Thierry Zaboïtzeff as joint leader until 1997).

Drawing on the infinite sound resources of electronic instruments, Art Zoyd mixed the influences of rock and electroacoustic music to bring out music's phantasmatic and evocative powers.

## ZONES OF DEPTHS

To be premiered on March 13th, 2024 at Le Phénix - scène nationale Valenciennes

Composition, electric bass and images Kasper T. Toeplitz

Percussion Didier Casamitjana

Cello Brice Catherin

Video Immersion Gilles Paté

Lights Design Sophie Lepoutre

Sound projection Zak Cammoun

Computer music director Oudom Southammavong (Art Zoyd Studios) and Patrick Delges (Centre Henri Pousseur)

Production Art Zoyd Studios

Coproduction Le Phénix Scène Nationale de Valenciennes

with the support of Espace Pasolini - Valenciennes and Centre Henri Pousseur - Liège



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