

**EXHIBITION**

**16.12.22 — 28.05.23**

**bureau  
europa**

Platform  
voor  
architectuur  
& design

**FROZEN**

**MUSIC**

**ON DESIGNING**

**SPACE AND SOUND**

# FROZEN

# MUSIC

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europa

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architectuur  
& design

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Floor van Spaendonck

*Recital* – THE HUMAN TUNING FORK  
Remco Beckers

*First Movement* – ALLEGRO MA NON  
TROPPO – The Music

*Second Movement* – ANDANTE CON  
MOTO – The Building

*Third movement* – ALLEGRO  
SCHERZANDO – The City

*Fourth movement* – FINALE: ALLEGRO  
MOLTO – The Sound

*Encore* – THE POWER OF SOUND  
Karin Bijsterveld & Paul Devens

# 16.12.22 —

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## ***Overture*** **SPACE FOR MUSIC**

Plooiink, plooiink, trrrrring trrrrring, boom!

The sounds that come at you – whether in traffic, the theatre, in a still forest where snow is melting, birds are chirping and a branch falls, or while listening to music – always vibrate through space, be it indoors or outdoors.

The sound may or may not have been conceived for a particular space, yet it could have been specially composed for a building or a car where even the door's soft closing thud is sonically engineered.

We welcome you to *Frozen Music*. This exhibition is conceived as a musical composition to highlight and play on the multifaceted subject of music and space, in which architecture plays a significant role, as do musicians and designers, who apply and interpret music and sound in many ways.

*Frozen Music* was created in consultation with musicians, spatial designers and connoisseurs of history, resulting in a composition that bears the unmistakable signature of curator Remco Beckers.

Listen, feel a frisson of excitement, and relish these spaces enlivened by sound and music.

*Floor van Spaendonck*  
Director of Bureau Europa

## ***Recital*** **THE HUMAN TUNING FORK**

Architect Willem Dudok perceived architecture and music as two fruits from the same tree. They speak the same language of rhythm, contrast, proportion, dynamics, texture, volume and harmony and have done so since their recognisable beginnings. The Greek philosopher Pythagoras called us humans tuning forks that intuitively sense harmony, both in music and architecture – a sentiment to which the architect Le Corbusier agreed.

When the earliest humans existed in the wild, natural phenomena such as echo, sound absorption and amplification were inexplicable. Was it the dead speaking? Or the gods? Indeed, sound underpinned religious belief. Early buildings – places of worship – often used the acoustics humans knew from nature. Adding sound – music – that responded to these acoustics would enrich the religious ritual. We also find that the Greeks designed their temples and music according to these harmonic principles.

Music and architecture have paralleled each other ever since. Medieval music responded to the possibilities of church architecture. Around 1200, the composer Pérotin witnessed the transition from Romanesque to Gothic architecture and from monophonic Gregorian music to polyphonic masses. At the same time, he elaborated on musical notation, from the 'neumes' (from the Greek for 'breath')

hanging loosely in the air to the notes we know today.

The Gothic style of Notre Dame in Paris guided Pérotin's musical notation. The building layers became the lines of the staff for visualising polyphony and chords; the flag on a note, which indicates its rhythm, is borrowed from the Gothic pointed arches; and the key and articulation marks resemble the exuberant ornaments we recognise from medieval cathedrals. You play music by reading a construction drawing.

In the late 19th century, acoustics became an essential factor, owing to the development of a grander style of Romantic music, the corresponding emergence of large orchestras and the subsequent growth of concert halls. Music was no longer an art form playing in the background. It deserved its own stage in the form of an optimised listening experience. One that was in the dark to minimise distractions. Therefore, the new concert halls' acoustics had to be calculated and designed to appreciate every musical detail, no matter how subtle. Nowadays, computers use algorithms to design acoustics far better than a human could ever achieve.

How different it is in everyday life, where sound is unavoidable and not placed on a pedestal. Our more densely populated cities have become sound boxes. Architecture today reverberates noise more powerfully due to sleek cladding in glass, concrete and metal, which significantly amplifies the loudness of the vast traffic. Signal sounds such as sirens and alarms take on a dangerous intensity, while the sounds that help us identify with a city like Maastricht blend increasingly into an unrecognisable blur.

City planners therefore have a complex problem to address. Half of the world's population lives in cities, so their well-being is a significant design challenge. Sound is not an insignificant precondition to be filtered out. It must be actively designed in new urban fabrics by creating parks for the quiet rustling of leaves, fountains for the pleasant splashing of water, and quiet zones to remove the internationally recognised health risk of noise pollution. Since 1969, UNESCO has been identifying sonic overkill and noise pollution and pursuing sustainable solutions such as building with traditional materials for a more natural sound distribution on the street or introducing more greenery that can attenuate and diffuse noise.

We should also make inner cities car-free. However, does the fact that electric cars hardly make any noise solve the problem? Their quietness is in itself a risk, and from this, another design trend emerges: many everyday sounds are intentionally composed. Whether it is the sound of a car door closing, the growl of its engine, the clickety-clack of a shopping trolley gliding over supermarket tile floors or the meaningless background music in elevators and parking garages, you can influence people with sound – in fact, so effectively that they don't even notice.

The buildings we inhabit and the streets we wander are full of music and even make music themselves. Wood sounds different to brick, which sounds different to glass, which sounds different to concrete. Walk through the city and listen to the fragments of transient dialogue, the roar of traffic, the sound of construction, church bells and ringtones,

birdsong and rustling of leaves, and the music blaring from cafes and open windows as if it were one composition. This is the music of the city.

*Remco Beckers*  
*Curator*

### *First movement*

## **ALLEGRO MA NON TROPPO**

– The music

The architecture of sound starts with the ear. The short distance that sound waves have to travel between our two ears means we can accurately determine our position in relation to our surroundings: from where does the sound originate; from what surfaces does it bounce? Our hearing is our always-on GPS. Though we can close our eyes, we cannot close our ears, which makes noise unavoidable. But, like many essential parts of life, we give this little thought.

The first musical instruments emerged from prehistoric symbiosis with nature. Repeated whacks of sticks left ancient impressions on rocks and stones. Pierced bird and sheep bones were, like reeds, played as wind instruments, as were ram and conch shells – and the didgeridoo. Hollow tree trunks also became percussion instruments. All were intended to pour the natural rhythms and melodies of our surroundings, the music of Mother Nature, into our human creativity.

The greatest fascination has traditionally been the voice, the instrument with which we are most intimately acquainted. Echoes were an important but inexplicable part of prehistoric life, offering the uneasy uncertainty of whether one was communing with the dead. Places with strong, natural acoustics – caves, rock faces, forests – often became the backdrop for the earliest religious rituals. And where the landscape didn't cooperate, the appropriate environment was built. Recent research from the University of Salford suggests prehistoric Stonehenge on Salisbury's treeless plateau was a vast sound box with carefully positioned boulders dragged from the Preseli Hills 300 kilometres away.

Ancient architecture often had sound qualities that preserved naturally occurring acoustics. The music made within ritual environments thus moved into these new buildings and became essential to the experience of architecture. The Gregorian dialogue between the oratory soloist and the responding choir took into account the distance the sound travelled between the two ensembles in reverberant Romanesque church buildings. When the Gothic cathedrals increased in height, the music also became more vertical by introducing polyphony. The polyphonic composers of the late Middle Ages and Renaissance, such as Du Fay, Des Prez and Willaert, composed their masses according to spatial proportions, as demonstrated by cathedral floor plans, with the same layered structure and calm rhythm.

Our surroundings considerably determine how we hear. Music, like architecture, is also based on tension curves: we experience the music linearly, from expectation to expectation. Thwarting patterns of expectation creates a musical climax because we

unconsciously long for structure and anticipate tension within it. Therefore, we pay close attention to special markers such as an accelerating rhythm, a sudden silence, or an unexpected chord. To experience architecture like music, 'in the right order', from tension to tension, the architect Le Corbusier developed the concept of 'promenade architecturale', the aha-experience of walking through a building with its design unfolding before you. A well-tuned synthesis of music and architecture therefore enhances one's experience of both.

## ***Second movement*** **ANDANTE CON MOTO** – The building

Just as musical instruments have their own architecture, architecture itself is an instrument in music. The Greeks built their semi-circular theatres so that the whole audience could easily hear the actors and musicians. At its centre was a round stone slab, called the *orchestra*, where the actors performed the play and which diffused the sound. Behind the stage was the *skène*, a stone structure with acoustic panels that directed the sound towards the audience. It was aided by bronze vases called *èchea* positioned in strategic places in the auditorium.

In the Middle Ages, basilicas, churches and cathedrals were always built according to approximately the same harmonies and proportions. There was a reasonably constant acoustic to which the music could respond. Architecture styles often developed hand in hand with musical styles, with a helping third hand from the master builder. Though Romanesque barrel vaults helped the acoustics, large and small ceramic vessels, known as 'the lost vases', were built into many church walls to make the singing sound better.

In the Baroque era, music by composers such as Lully, Telemann and Corelli was the privilege of the wealthy and performed in private concert halls: small rooms with hardwood floors and stucco ceilings that helped define each musical part with crystal clarity; the lavish music decorations were able to glitter beyond compare. The neoclassicism that followed was tighter and accompanied by simpler, more subtle, more symmetrical music by the likes of Haydn, Mozart and Boccherini. A fuller orchestra accompanies shorter melodies. A special stage was created for these larger orchestras. Proper concert halls appeared in a shoebox style, with rectangular auditoriums, flat ceilings and stucco acoustic wall panels. You may wonder: did the music evolve according to the space, or did the space adapt to the music?

Now that music as an autonomous art had a stage, it was better able to independently develop in the 19th century, becoming grander and more passionate. Consequently, orchestras also grew, with industrially innovated instruments that sound purer and richer. Mendelssohn, Dvořák, Tchaikovsky and other Romantic composers used lyrical motifs and subtle colours that required concentrated listening. Once the concert hall lights dimmed, the audience fell silent. (Richard Wagner was notoriously irritated by concert hall chatter.) Concerts were no longer about seeing and being seen but about listening and being absorbed in the music.

From the late 19th century onwards, purposeful acoustic design optimised the listening experience. Music's increasing popularity meant larger concert halls to accommodate more people and innovations in the space's shape. For example, the audience in 'vineyard' auditoriums sat on sloping terraces around the stage. Audience-oriented acoustics were increasingly becoming a two-way affair, with artists and orchestras wanting audience feedback. The audience becomes an instrument in itself: a role that John Cage's 4'33" fully exploits.

On a more subtle level, the architectural façade also radiates music. Architects have often been inspired by composers: Berlage by Beethoven, Van Doesburg by Van Domselaer, and Hoogstad by Bach. The amount of windows and their placement creates rhythm; material textures represent the orchestra's different instruments; the height differences in the building layers and the depths in the façade placement are the sound volume and dynamics. When a façade's elements are balanced, its composition is as harmonious as a piece of music. Read the façade as a musical part; sound the architecture!

## ***Third movement*** **ALLEGRO SCHERZANDO** – The city

The instruments in the orchestra, the materials in a building, and the voices of the architecture make the music of the city. A city's acoustics depend on many factors that often remain invisible in urban design. The acoustics of an orchestra hall are the negative space around which architects carefully craft a mould, whereas sound has free rein in the urban fabric. Therefore sound has long been a criterion for urban planners to filter out rather than deliberately apply.

Due to the significant increase in residents, their forms of transport and the work involved in accommodating them and their movements, the streets are teeming with noise. Technological advances spawned new sounds to inspire music makers and sound artists — throbbing factory machinery, rumbling trains, revving cars, blaring radios, and shrilling ringtones. Some artists and genres would never have realised their particular qualities without the sounds of the urban environment.

It is not only the people and their technologies that make noise; buildings do too. Architecture is alive. Materials interact, pipes and installations in the walls make music, and façades reflect the sounds of the street. These sonic manifestations happen because buildings are taller and streets are relatively narrower. Materials such as concrete, glass and metal are increasingly common in contemporary architecture, and these materials reverberate more strongly than older building materials such as wood, brick and clay. Consequently, street noise is becoming more pronounced and reverberates more than ever before. The city has become a sound box.

Noise levels in major cities are estimated to have more than doubled since the 1980s. Noise nuisance is no longer a luxury problem but an internationally recognised health risk. Cities now accommodate more than half

of the world's population, and their well-being is a major design challenge. People in noisy environments subconsciously tune out stimuli such as traffic noise. Signal sounds, such as alarms and sirens, are now louder to be audible above all the city noise. Though most people can only just discern a siren in the busy city, they can cause severe hearing damage in a quiet environment.

Fortunately, urban planners are increasingly taking this contemporary noise problem into account and recognise that the design of sound and silence is an essential task. But how do you design silence in the first place? There is talk of high and low-fidelity sound environments. The first is preferred. In a low-fidelity environment, we suppress recognisable sound patterns because they are disturbed by loud monotony. The city noise becomes a mush and important sounds disappear from our hearing.

A high-fidelity sound environment safeguards the signal sounds that help us navigate the streets. It also answers our unconscious desire for simple, predictable, and repetitive sounds that are pleasant to the ear, by leaving space for rustling leaves and splashing water. Greener cities are also a good noise solution. Where landmarks are the buildings and places that help us to identify with a city and to feel at home, soundmarks are their audio equivalents and are similarly crucial for how we experience the city. Think of the church bells and the muezzin, music schools and conservatories, clamouring market-stall holders and carillons.

In a total design, as the city is by definition, you simply cannot avoid sound.

#### *Fourth movement*

#### **FINALE: ALLEGRO MOLTO**

- The sound

Noise-free driving can considerably reduce traffic sound disturbance. This development has been applied to car interiors for some time. Drivers increasingly experience their cars as relaxing spaces thanks to innovations designed to give the consumer a feeling of privacy and security, such as heating, air conditioning, luxurious interiors, noiseless engines, pleasant smelling environments, and the possibility to enjoy your favourite music undisturbed by ambient noise. The car interior has become an audio cocoon that gives drivers a sense of freedom otherwise denied by the constraints of traffic regulations, sight-obstructing noise barriers along motorways, and urban traffic congestion.

However, silent cars are nothing new. In the 1920s, attempts began to reduce engine noise: loud noises were associated with inherent defects. The 1930s saw the enactment of the first noise pollution regulations. The silence of a vehicle's interior comes later and develops into a selling point, especially in the 1990s. The car is a place to switch off, relax and find yourself. The irony, however, is that surveys show automotive noise most bothers those outside the car! Further regulations made the car even quieter and, above all, safer. But this changed an important signal sound, and it is not, as you may think, the engine sound.

A car door closing is an automobile's most important sonic characteristic. It is the first sound a

potential buyer will hear and must immediately convey the vehicle's quality and value. A tinny, hard clap sounds as if the car is about to fall apart; a deep, soft thud feels chic; a long tail-off sounds expensive. Similarly, the locking system should make just the right click to convince the driver of the vehicle's safety. The car's sounds are specifically crafted to manipulate drivers and buyers.

In the modern city's noise abundance, where residents are subjected to considerable traffic noise and where urban planners task themselves with designing quiet zones, the silence of the electric car seems to be the ideal solution. However, nothing could be further from the truth. Pedestrians trust their ears and rely on the sound of approaching traffic. As such, the absence of this sound is dangerous. Silent cars therefore have specially crafted artificial engine sounds; some are made by famous film composers, such as Hans Zimmer's sound design for the BMW i4. The more expensive the car, the greater the choice. The Tesla Model Y can even use any sound as a horn: a pointless exercise since a horn only works if it is recognisable as a horn.

Sound design is everywhere in more and less subtle ways. The floor tile designs of some supermarket chains are known to have a controlling effect on the consumer. Smaller tiles speed up the clickity-clack rhythm of the shopping cart's wheels. Subconsciously, you think you are walking too fast, and you slow down, precisely where the most expensive products await you. Pay attention to the music too. Quiet music in supermarkets, shops and malls is meant to keep you inside them. Mood Media is a company that tailors music to shoppers worldwide, which differs from region to region, city to city, and district to district. A short experiment with silent shops in 2006 (to save costs on music licencing) cost Albert Heijn dearly because 86% of shoppers would visit a rival shop that did play music.

## Encore

### THE POWER OF SOUND

**CURATOR REMCO BECKERS, SOUND ARTIST PAUL DEVENS, AND KARIN BIJSTERVELD, PROFESSOR OF SCIENCE, TECHNOLOGY & MODERN CULTURE AT MAASTRICHT UNIVERSITY, DISCUSS THE POWER RELATIONS THAT EMERGE FROM THE DESIGN OF SPACE AND SOUND.**

#### Remco Beckers

Sound plays a vital role in how we perceive space, but how do art and science see this?

#### Paul Devens

One of the things that interests me is how power relations in sound and space are related. You have a power relationship in the amphitheatre: the audience undergoes an act of a speaker who is the centre of attention and whose position is acoustically reinforced by the architecture. The orator's sound and central position reinforce each other.

**RB** This power relationship is shifting because nowadays the emphasis in theatre design is more on reciprocity. Artists want to hear the audience's feedback rather than acoustics only radiating from the stage towards the audience.

**PD** Absolutely. There is flexibility in how a stage can be set up. Baroque music is performed in a different configuration than contemporary classical music. Technology plays a role in the spatial design. Software and algorithmic acoustic approaches are increasingly involved, like in Herzog & De Meuron's Elbphilharmonie in Hamburg.

#### Karin Bijsterveld

I have to think of our colleague Anna Kvcialova (Masaryk University, Brno, Czech Republic). She researched 16th-century Calvinism in Geneva and the effect of pulpit placement on church design. Intelligibility became necessary because sermons were given in the native language instead of Latin. People now had to understand the sermon's message, which influenced the pulpit's position and form – in the middle of the room and with a canopy to improve intelligibility. Consequently, people learned to listen differently. The church councils wanted to ensure people understood the sermon; sometimes, churchgoers were even questioned afterwards. Amusingly, people often didn't concentrate because the sermon's content was very abstract to them. They would say things like the reverend looked good. This focus on listening also revealed many people had hearing problems in those days because all kinds of inflammations had no cure. So, people often really didn't understand what was said in a sermon.

**RB** The power relationship also determined how music was treated. In the 16th and 17th centuries, a musical performance was the privilege of the nobility who funded it. Music has also always had a practical and supportive role in churches. It wasn't until the late 18th century that music got its own stage, but people still didn't go to the concert hall or the opera to listen to music.

**KB** At first, people talked over the music and walked in and out. A concert was a meeting place. There have been many disciplining efforts to teach people how to listen.

**RB** It is well known that Richard Wagner reacted angrily to chattering people during a performance of his opera *Parsifal*. In the late 19th century, concertgoers started imitating the quiet contemplation of how a composer sat in the concert hall listening to the music.

**KB** There is also a nice story about the composer George Antheil, which he helped spread, so it is likely just an urban myth. He played classical pieces and compositions of his own making in concerts and noticed that when he started playing his own work, people would get restless and start talking, which he hated. He once gave a concert and began by pulling a gun from his inside pocket and placing it on the grand piano with the barrel facing the audience. He then asked the ushers to lock the doors. The story goes the audience was dead silent for the entire concert.

**PD** That's a heavy-handed tactic! But it's an amusing anecdote that segues nicely into the question of how to create conditions that make people receive sound in a particular way. Years ago, I had an interesting discussion at my studio with the performance artist Moniek Toebosch. I had just started giving electro-acoustic concerts, and she asked: does your audience sit or stand? I had never thought about this. When people are standing, they feel their bodies. As a performer, you need an entirely different energy to maintain a balance with your audience. If people are standing, they may also want to dance. Of course, you don't experience a dance event from a chair. Dance beats are tuned, after all, to the body's mass.

**KB** I find that I can listen better to most sound art if I can walk around a room.

Janet Cardiff's *Forty Part Motet* is a good example. It's based on *Spem in Alium* by Thomas Tallis and features a ring of speakers, each playing a different voice. As you walk from voice to voice, you get a new experience of the piece. It has played a significant role in commemorating 9/11. It is still presented in New York, in museums and churches, and has become a de facto memorial. People feel serene, and that creates a space to remember these kinds of terrible events.

**RB** Isn't it limiting that you have to go to a specific place to experience a sound work optimally?

**KB** But that's what makes it special. You often go specially for the spot.

**PD** You shouldn't sing a Gregorian chant in a dry-sounding room. It is written for reverberant spaces. It is monophonic music, but polyphony naturally arises because the sound lingers in the space and overlaps itself.

**RB** The exhibition features *Whispers* by Strijbos & Van Rijswijk, with Pierluigi Pompei. Five ceramic trumpets float in space, each emitting its part of a composition. You have to walk around the work to hear it in its entirety, but that proves impossible because each horn emits its sound only softly. The work is based on an interview with a person with degenerative hearing damage who is becoming increasingly deaf. His condition bothered him so much that he felt alienated and misunderstood sounds. For example, a passing car might sound like it is calling his name.

**PD** Phantom behaviour. People hear all sorts of things in noise. *Rorschach Audio* (Joe Banks, 2012) describes this kind of phenomenon, such as hearing things in the ticking of a clock. Or if you see a video of someone saying an E, but on tape, you hear a U, and the audience hears an I. Sometimes you seem to hear the voices of the dead in radio noise. Artists like Carl Michael von Hausswolff are working a lot with this.

**KB** The reverse also occurs. Low vibrations can cause eye twitches, which may be where our idea of ghostly apparitions comes from – infrasound that you can't hear, but can feel.

**PD** Infrasound is also created when you drive a car on the highway with open windows. Vibrations of 8Hz or 10Hz are much more harmful to your hearing than has always been assumed. Hans van Koolwijk's *Flute of Origin* in Neerpelt is a large organ pipe you can enter and experience 8Hz. I've been there several times, but alas, I haven't seen any ghosts yet.

**RB** You're touching on the type of synaesthetic experience of seeing sound. The composer Rimsky-Korsakov did not say he composed but that he painted. He heard colour.

**KB** At the Muziekpedagogische Akademie, a teacher told me he could make a sauce out of every chord. He didn't connect sound to the visual – which is the most common form of synaesthesia – but to taste. He tasted the music and was able to convert it into sauce recipes. That has always stayed with me. I'm slightly synaesthetic myself, like many people, so when I try to remember a word, I often still have the timbre in mind.

**RB** In *Why Life Speeds Up As You Get Older* (2001), Douwe Draaisma writes that newborn children have many more brain connections than adults. Those connections die with age, making it easier to distinguish your sensory perceptions. This goes faster for some people than others, so some still see colour with sound. Synaesthesia is a relic of our early childhood.

**PD** Other primal connections can also linger. Sound design uses this in films, for example, and exploits how sound can trigger the brain's fear response. I once rented *Silence of the Lambs* on VHS. I briefly went to make coffee or something during a suspenseful scene, but a rumbling noise was present the entire time. Such devices keep people on the edge of their seats, and the image then completes it, as it were.

**RB** So, it's a matter of waiting for the horror movie that uses those 8Hz sounds to evoke ghostly apparitions.

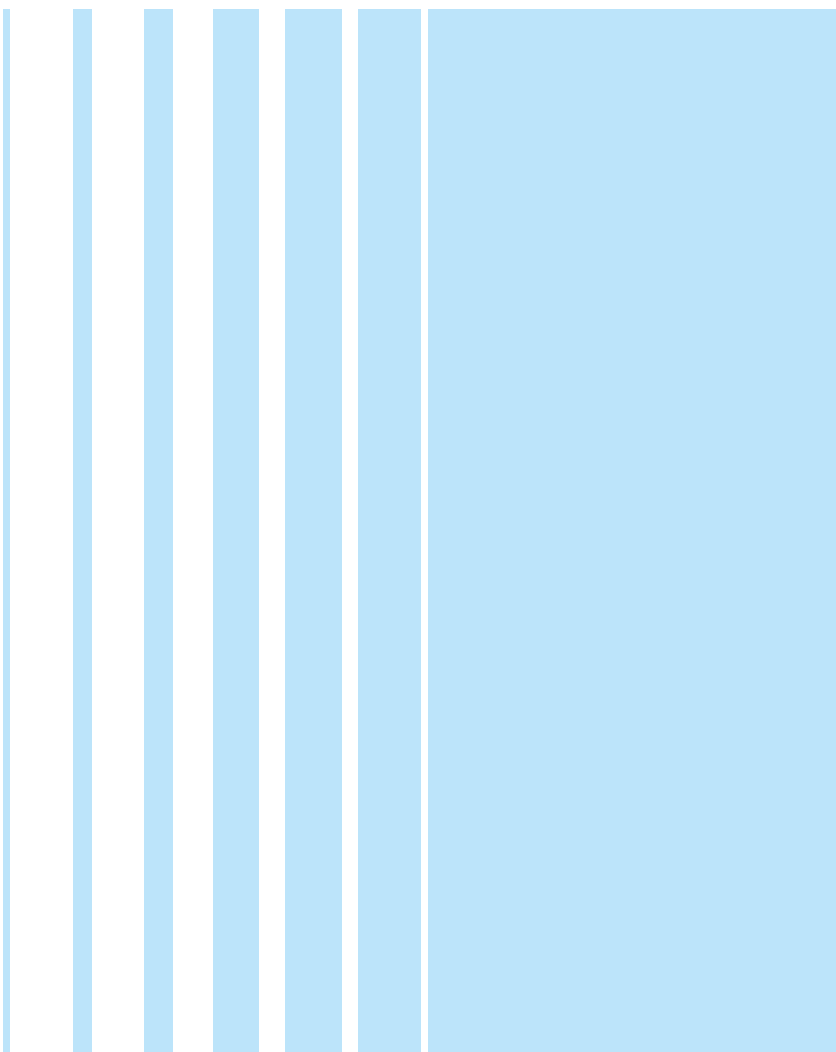
**KB** Sure, but I hope they don't!

**RB** Of course, sound has been used for some time to manipulate people. Car sounds, for example. Paul, you and Otomax, together with Michiel Ubels, are making an installation, called *OTO*, about this for the exhibition.

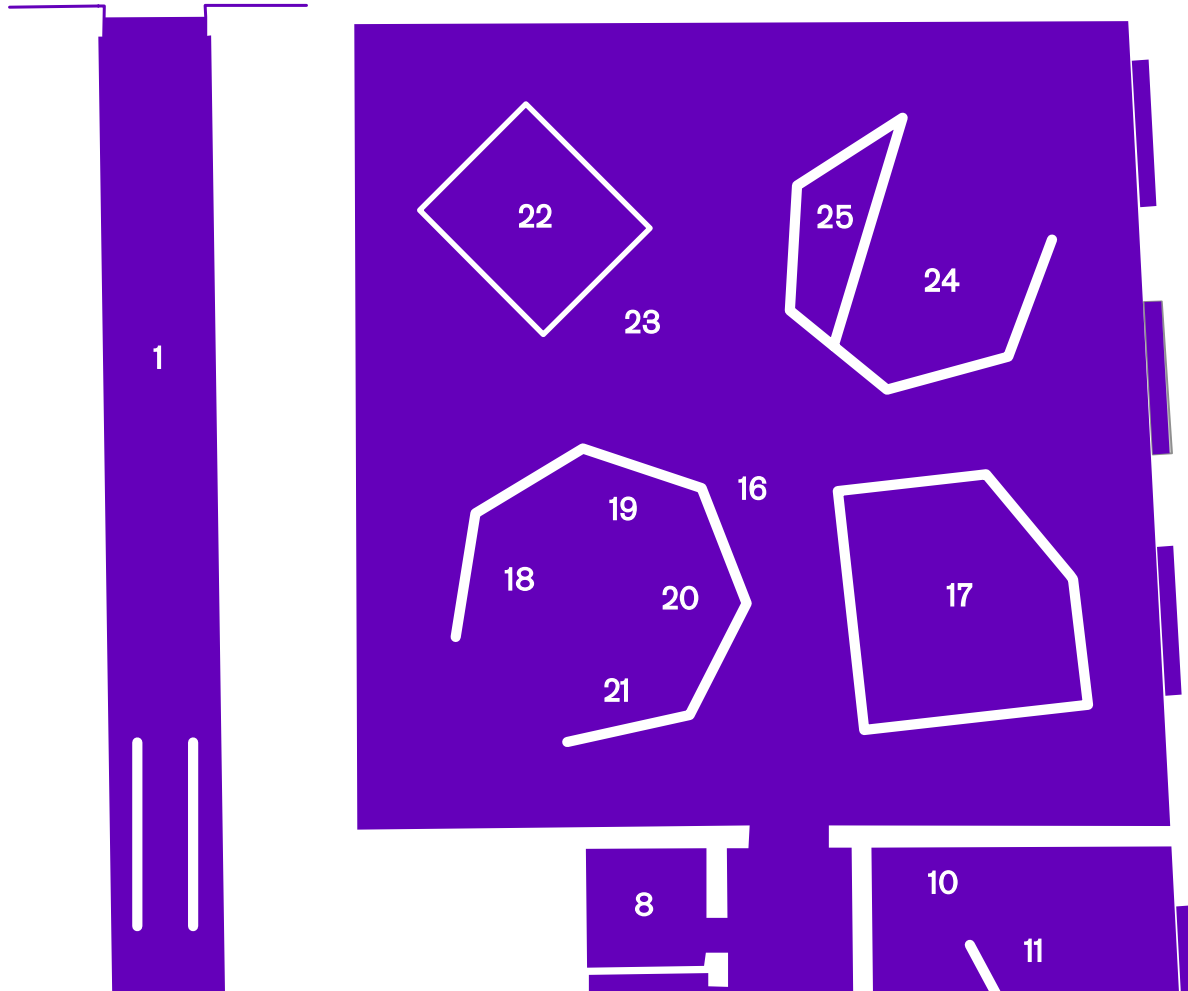
**PD** Otomax is a collective of five people (Paul Devens, Joep Hinssen, Fran Hoebgen, Mike Moonen and Nika Schmitt) who are always looking for narratives that can work around and beyond boundaries. We make derailed dance music with homemade stuff. We look for the just-not-clichés or reverse clichés. This installation simultaneously negates and confirms the car narrative: a seat vibrates and moves with the bends, accelerating and braking, which we see on three screens, the windscreen and two side windows. The image, by Michiel Ubels, and the sound create a game-like feeling, so we play with the car sounds. After all, cars are entirely designed around sound.



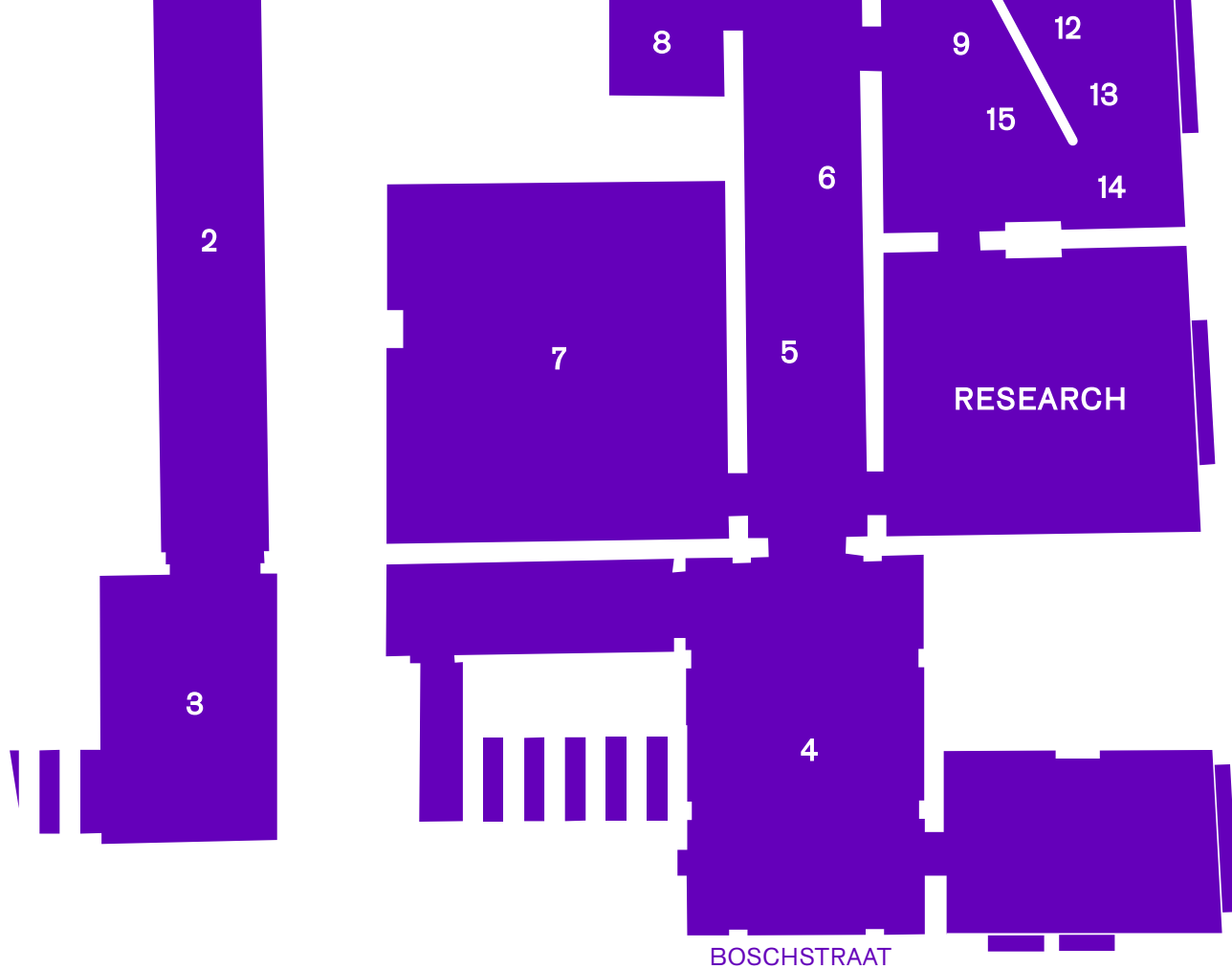
- KB** Indeed, that has been happening for a long time. My book *Sound and Safe* (2014), which I wrote with Eefje Cleophas, Stefan Krebs and Gijs Mom, is about automobile sound design. It is fascinating that cars have been using sound design since the 1920s. Posh brands had to be quieter, for example.
- PD** Rolls Royce still uses stethoscopes to listen to the interior of their vehicles.
- KB** Silence was associated with refinement and later also with safety. When people still had a driver, they could delegate technical issues, but once behind the wheel themselves, they'd get agitated by sounds they couldn't place. So they'd go to the garage to have the whole car checked. Garages weren't keen on doing that, so they'd explain the sounds associated with particular problems. Later, that shifted to: 'If you hear a strange noise, bring your car to us. We're the experts!' More importantly, many of the sounds usually have nothing to do with the car's functioning. The hood on early cars was made of wood and creaked like crazy. A steel hood works like an amplifier, and tin rattles on all sides. Therefore, designers spent a long time trying to make everything as seamless as possible and minimise the vibrations. In-car sounds still have a role to play, but the link between the sound you hear – a beep here and there – and the car's engineering has completely changed since digitisation. Now every sound is designed.
- PD** Audio studios devise sounds for electric cars. They ensure the sounds become familiar and are neither too alarming nor too present.
- RB** We are returning to where we started: the position of power. The car has become a cocoon where the driver can exercise more control over his possessions. This contrasts with complying with the rules and restrictions of driving. Sound plays a role in regaining control.
- KB** People have less traffic control: roadside noise barriers restrict your view, and it is busier on the road. Car journeys can be tedious, so a radio keeps you company. The car stereo also became a way to control your mood while everyone around you seems to be driving without due care and attention. Then came the broadcasting of traffic information, so you knew where the traffic jams were. People also feel that in-car audio can keep them productive, such as by listening to podcasts.
- RB** Now we can take music and sound with us everywhere. Has that changed our use and appreciation of music?
- KB** Initially, wearing headphones in public spaces wasn't accepted. It violated civilised behaviour, but gradually this changed. Michael Bull (University of Sussex, Brighton, UK) researched how people could make unfamiliar terrain safer by listening to music. When you listen to your own music while travelling, adding your own soundtrack makes the outside world more familiar and less threatening. You can make your daily routes more interesting by listening to something new every time. These are also ways in which people influence their world. Therefore, music has by no means become less important.



ENTRANCE



- 1 Fantasia on a Theme by Thomas Tallis (1910), Ralph Vaughan Williams  
Film (17:01 min.)
- 2 The Music of the Spheres, after a recording of Saturn by Voyager I and II (1980)  
Geluidsopname/Sound recording
- 3 Omniphonium (2022), Leopold Inkapööl  
Interactieve installatie/Interactive installation
- 4 Whispers (2016), Jeroen Strijbos & Rob van Rijswijk, with Pierluigi Pompei  
Installatie/Installation
- 5 Letter to my neighbors (2006), Sarah van Sonsbeeck  
Ingelijste brief/Framed letter
- 6 Chattering (2020), Christy Westhovens  
Interactieve installatie/Interactive installation
- 7 Children of Unquiet (2014), Mikhail Karikis  
Film (15:40 min.)
- 8 Tengo Ritmo/Birthday at the Waldorf (2017), Muzak Orchestra  
Muziek/Music
- 9 Schouwburg Het Park (2001-04), Ton Alberts & Max van Huut  
Theatergebouw te Hoorn; presentatiepanelen/  
Theatre in Hoorn; presentation panels
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- 16 Come Fly With Me (2020), Joep Hinssen  
Installatie/Installation
- 17 OTO (2022), Otomax (Paul Devens, Joep Hinssen, Fran Hoeborgen, Mike Moonen & Nika Schmitt), with Michiel Ubels  
Interactieve installatie/Interactive installation
- 18 Philipspaviljoen (1958-59), Le Corbusier & Iannis Xenakis  
Paviljoen voor Expo 58 te Brussel; maquette, fotografie en film (10:15 min.)/Pavilion for Expo 58 in Brussels; model, photography, and film (10:15 min.)
- 19 Elbphilharmonie (2001-16), Herzog & De Meuron, with Yasuhisa Toyota  
Concertgebouw te Hamburg; ontwerptekeningen, fotografie en film (2:46 min.)/Concert hall in Hamburg; design drawings, photography, and film (2:46 min.)
- 20 Groot Volkstheater (1919-20), Hendrik Wijdeveld  
Niet uitgevoerd, te Amsterdam; tekening en maquette/Not realised, in Amsterdam; drawing and model  
Design for a pier and boulevard (1953-56), Hendrik Wijdeveld, with Jan Wils  
Niet uitgevoerd, te Zandvoort; tekening/Not realised, in Zandvoort; drawing
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10 Maison d'Artiste (1923), Theo van Doesburg & Cornelis van Eesteren  
Niet uitgevoerd; tekening en maquette/Not realised; drawing and model

11 Concertgebouw (1883-88), Adolf Leonard van Gendt  
Concertgebouw te Amsterdam; tekeningen/ Concert hall in Amsterdam; drawings

12 Muziekcentrum Vredenburg (1977-79), Herman Hertzberger  
Concertgebouw te Utrecht; tekeningen en maquette/Concert hall in Utrecht; drawings and model

13 Theater De Maagd (1986-90), Onno Greiner  
Theatergebouw te Bergen op Zoom; tekeningen/Theatre in Bergen op Zoom; drawings

Opera Veerkade (1994), Onno Greiner  
Niet uitgevoerd, te Amsterdam; tekening/Not realised, in Amsterdam; drawing

14 Beethovenhuis (1907-08), Hendrik Petrus Berlage  
Niet uitgevoerd, te Bloemendaal; tekeningen/ Not realised, in Bloemendaal; drawings

15 Het Speelhuis (1975-77), Piet Blom  
Theatergebouw te Helmond; tekeningen en maquette/Theatre in Helmond; drawings and model

21 Ark Nova (2011-13), Arata Isozaki & Anish Kapoor, with Yasuhisa Toyota  
Concertgebouw te Miyagi (2013-14), Fukushima (2015) en Tokio (2017); ontwerp tekeningen en film (2:30 min.)/Concert hall in Miyagi (2013-14), Fukushima (2015) and Tokyo (2017); design drawings and film (2:30 min.)

22 Selling Bricks (2021), Bartlebooth (Antonio Giráldez López & Pablo Ibáñez Ferrera)  
Film (15:00 min.) en digitaal archief/ Film (15:00 min.) and digital archive

23 Tocar (2019), Sóley Ey (Sóley Sigurjónsdóttir)  
Interactieve installatie/Interactive installation

24 Hofheide (2006-09), Coussée Goris Huyghe architecten, with RCR architectes  
Crematorium in Holsbeek; model and photography

25 Opus Crematio (2019), Jacob Kirkegaard  
Geluidsopname / Sound recording