

Zeitschrift: Trans : Publikationsreihe des Fachvereins der Studierenden am Departement Architektur der ETH Zürich

Herausgeber: Departement Architektur der ETH Zürich

Band: - (2021)

Heft: 38

Artikel: Reproduction of music : a multiplied time-space

Autor: Du, Michael Hoi Ming / Zhang, Yiran

DOI: <https://doi.org/10.5169/seals-981492>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 14.01.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

«Through hearing, we are now on distant planets of resonance, gravitating towards each other, connected by this music piece... a universe was born.»

REPRODUCTION OF MUSIC: A MULTIPLIED TIME-SPACE

Michael Hoi Ming Du, Yiran Zhang

Michael Hoi Ming Du, born 1996, was an exchange student at ETH Zurich, and he holds a Bachelor of Arts degree in Architectural Studies from the University of Hong Kong. He is a music producer from the Eating Music label in Shanghai.

Yiran Zhang, born 1995, is an exchange student at ETH Zurich, pursuing her Master of Architecture I degree at Harvard Graduate School of Design, MA. She holds a Bachelor of Science degree in Architecture with a Minor in Art from Washington University in St. Louis, MO.

«The moon is bright, the wind is quiet,
the tree leaves hang over the window sight.»⁽¹⁾

As she holds her baby in her arms, she starts humming the cradle song that her grandmother used to sing to her, when she was held in gentle arms.

Life is the unlimited collection of things within a limited time. There is always something recurring, the full moon, departure, the music that brings grief to a soul. It is easy to compare, say, a book and its copy. You easily scrutinize the nuances: the beige color on this cover has a deeper shade, and the paper of that copy has a smoother finish. But how do we bring her singing parallel to that of her grandmother's, knowing that we only experience once, in a flowing cosmos of happenings? How do we reproduce the experience of hearing, something shapeless, an experience that does not manifest itself in the visual and practical world? Does it duplicate the emotional response and associated memory, or create, instead, another compartment of life?

Say mama. «Mama.» A tender toddler starts to mimic the sound without knowing its form or meanings. Language was invented and acquired through the reproduction of sound. It serves as an innate mode of human expression before any scribbles have been put to stones. We make a sound, produce sound after sound, and soon we are already beautiful creatures ready to dive into the dark forest of music: music production, music re-production, re-make, re-mix... seems to never exhaust the possibilities of sound. Yet romantically enough, we only exist in one music time-space. The music experience is a single temporal continuum. The reproduction of music thus seems esoteric both for those who produce and those who receive. What is happening, in the reproduction of music? Our inquiry therefore attempts to unravel some of the qualities of music occurrence, and reflect critically on the music listening experience of our own daily life.

I

It starts with reproduction within music time. Rhythm, for instance, is music reproduced in time. It is segmented time, repetition of sound relations. The rhythm grid is always a reproduction of beats arranged into specific patterns, which evokes instinctive responses greater than the current music time. Techno music at 120 bpm speed almost duplicates the experience of Kenyan ritual dance music. A minimal techno beat at 120 bpm, gridded tightly within 4 notes, runs slightly faster than an alcohol accelerated heart-beat. When she shakes her head around a techno beat in the flashing red lights of a club, there is a tribal woman nodding accurately in the same movement, 3000 years ago, on the vast land of heated earth. The rhythm brought their mind and body in sync, as if they had gathered under the same roof.

The motif is another element that repeats itself. A music motif refers to a music phrase as the smallest structural unit with thematic identity — a melodic, harmonic or rhythmic cell. It contains a rhythmic (time) relationship, a harmonic (spatial) relationship, and an orchestrational (scalar)



Carlo Scarpa, Brion Tomb, 1968, Pond, Treviso, 2018.
Image: Michael Du



Inside the Great Pyramid, 1977.
Image: album cover from Paul Horn



Sketch, 2020.
Image: Michael Du

relationship to itself. Throughout the reproduction of motif, one or more of these relationships can be altered in order to multiply or intensify the limited music progression.

Beethoven offers a beautiful elaboration of motif reproduction in his Symphony No. 5. The «fate motif» is a short-short-short-long phase made of two phrases that runs in major harmony yet descends towards minor. It is introduced with solemn clearness by a full string section in the first few bars — like a lightning striking across the sky, building up immense tension for the turmoil yet to come. Then it spreads thinly into soft violin and viola phrases chasing each other. In bar 22, «fate» comes knocking again, this darkening alarm that tightens your heart, now doubling in scale with the full orchestra shouting in unison. In the following progression of this piece, the motif sometimes hides in the bass section with its original rhythmic relation. At other times it undulates on the upper melody in dense tides, building up the energy to an ecstatic moment. In bar 59, «fate» reappears. In its full clarity, the motif is called out by triumphant French horns, releasing all tensions building up to this point...

Music motifs are «cells» arranged in an orchestrated manner to serve a unified musical body — a concept that lines up closely with motifs in architecture. Robert Venturi, with his 1966 essay «The Difficult Whole», offers a sharp theoretical synthesis on this topic: The repetition of architectural motifs, which then inflect in space, time and scale, can provide a consistent reading of a larger architectural body — a difficult yet unified whole.

I'll take you on a stroll through Carlo Scarpa's tomb in San Vito. Scarpa employs an array of offset concrete ridges as his motif. Upon your arrival, the motif welcomes you by ornatting the low walls enclosing a pool of water. You walk around the pool into the courtyard, to see the ridges appearing playfully around wall edges, cornices, keystones and skirtings. In the Chapel, the motif becomes further immersive: It frames the door, morphs into stairs, and even shapes the skylight — shimmering in a heavenly aura and gradually receding into a square of light. It encapsulates you. «Fortissimo! Fortississimo!» Scarpa keeps conducting his orchestral piece outside the Chapel along its outer facades, towards a solemn and sculptural cadence. Then you encounter The Giuseppe Brion Tomb — a concrete structure setting off from every direction in different scales and intensity. This condensation of form grapples with the Mediterranean sun and defines rhythm as cast lengths of greyscales. By organizing fragments, the architect creates a unity, a unity that exceeds the sum of individual elements, leaving a lingering impression on us.

Repetition legitimizes. Repeated rhythm, motif, theme, or chapter deepens an experience as if there were many layers from the start. An artwork reproduced in time multiplies in space. Space expands in all directions.

II

Now, the contemplation of music moves on from its production, towards its distribution and reception. Those procedures charged with human intentions,

fulfil the music experience and give birth to something known as music space. «Music space» is a concept that describes both the dimensions of music qualities, and the events of music happenings. Music reproduced in space can thus be defined as music reproduced by events with specific originalities.

Where do we find the original music then? Whose intentions are to be accounted for as musical ideas pass down from creation to notation, then to performance and recording? If authenticity is involved in each step of reproduction, each «copy» could be considered an original since different human intentions are involved.

In Jazz music the effects of reproduction are blatant. Unlike classical sheet music which is meant to be followed, the sheet music of Jazz is meant to be scrutinized. The «real book», a Jazz bible book published in the 1970s, offers music notation instead of prescription. Only the backbone of songs have been notated. Any tempo, key, chord or melody could be further manipulated: a band can stretch a song as long as they wish, for the craziest solos. Music space is therefore expanded from the headspace of the composer towards that of the performer. Jazz music was able to combine the intention of composer and performer through reproduction.

It is difficult to find the original «Someday my prince will come». This Jazz piece has been performed so many times that it was quenched into an idea differing widely from its debut by Adriana Caselotti in «Snow White». Piano giant Bill Evans played the piece with embellishments, making it lush and elegant. Chet Baker sang it with a brittle trumpet tone - a song of melancholy. In different performances, the melodies of this song flourished in such diversity that they would look like completely different songs on sheet music. But they do share one distinctive melodic idea. While the performances differ in melody, harmony, rhythm, and instrumentation, it is still the song. Just not the same song. «The song» lies in an abstract idea of it, with its core and soul built up by countless reproductions and reinterpretations.

Deejaying, or the art of music re-playing, expands music space in the form of editing. On a dance floor, Disc Jockeys (DJs) fade selections of songs into each other to curate a general mood. Precisely because of this, a set is greater than all songs combined. For instance, a song like «Yekeyeke», (a 1980 Afro-Disco hit by Mori Kante) played back-to-back with «99 Luftballons» would invoke a nostalgic sensation. It would take me to an 80s disco, with a giant glass ball overhead refracting colourful light beams. However, if the song is played after «Ascension» by Babatunde Olatunji (a traditional Nigerian drum piece) it could be a celebration dance in a contemporary tribal ritual. From disco to ritual, the very piece of recording can take a great leap in music space.

I know a song by heart that accompanied my teenage years. How can this song still bring so much courage to my heart today? When I hear the plucked strings of the guitar ring, I feel my blood rushing in the same frequency to it. It is almost physical. I hear it as if I was pulled back to one afternoon: The

dust motes lit by sunlight tremble with the sound of the guitar, the girl with a sincere loving heart sits with a guitar, and she sings:

«I'm rushing blindly
But I'm bruised and battered.»⁽²⁾

The process of music distribution, whether that is performance, recording, or DeeJaying, inevitably involves human intention. Such will, with deep authenticity, fathoms all possible dimensions of a particular music project. It is the re-doing that allows music to propel out of the mere artifact it originally was. The reproduction serves no longer the pure recurrence of a certain music space, but feeds into one that has already been multiplied.

III

At eight at night I encountered an accordionist playing in a busy tram station. She has her instrument on her lap, fingers dancing around the keyboard in the glassy winter air. And music flows. It flows through the night like water, through the expressionless faces of passers-by, and reaches my pounding heart, weary and grey. I start to feel a strange bond between us: such warmth, such beauty, through and only through the offering of music. Its unique dynamic was born spontaneously, and split into two compartments between the performer and the listener. Through hearing, we are now on distant planets of resonance, gravitating towards each other, connected by this music piece. We formed a constellation of music reception. A universe was born.

Music thrives through reproduction. Reproduction is an absolute right and need for music to prolong its existence. However, the reception of music is something non-reproducible. In that exact sense, every listening is a reproduction.

The reception of music is correlated to both emotions expressed by the author, and emotions aroused in the audience. The two are not necessarily equivocal. Although there are aspects of music that have already been prescribed, such as colors of chords that create certain «hints», each listener establishes their own dimensions while listening. Listening evokes a virtual space, an illusory realm with meaning, unique to each individual. Music experience must be completed through listening, which is active and strangely creative. Roland Barthes already warned us that the author is dead.⁽³⁾ Similar to literature, there is the emancipation of the explanatory rights in music, replaced by a strong support of misreading the original piece. Such freedom makes music greater than music itself. The multiplication of unique listening experiences creates an enormous, holistic, and non-reproducible music time-space — a beautiful constellation.

There is a German word that fascinates me: «Die Stimmung», which is a somehow imprecise translation of the English word «atmosphere». «Die Stimmung» is this illusory realm that music listening evokes, hinting at how one subconsciously perceives the environment and regulates actions towards

it. «Inside the Great Pyramid», an album released in 1977 by Jazz musician Paul Horn, consists of 43 minutes of flute solo and hymns inside Giza. While listening to its pentatonic solos (a 5-note scale commonly used in ancient times), I see an image: I see an ancient sage playing a meditative piece in the depths of a bamboo forest. Later I received the cover image, a photograph of a blueish purple dusk with shimmering stars above. When I learned that the airy reverb comes from the tomb of the great Pharaoh, «Die Stimmung» that it generated within me was completely distorted. The image I saw vanished.

John Cage sat at the piano for a duration of 4 minutes and 33 seconds for his unprecedented performance «4'33"». It created an empty envelope to encapsulate silence, a special kind of silence that also contains all sounds falling within the silence frame: the audience's slight coughs, the slight rub of fabric against their chairs, whispering and breathing... all became part of the piece. Through the enforced listening experience, it reimagined the way we listen, that music is eventually an inseparable experience of listening in daily life. Listening is an attentive, reflective and creative act. The moment when listening starts, music starts.

Immense beauty lies here, that music is essentially a progression where many are involved. From the ones who write, to the ones who play, and to the ones who listen... each participant contributes to the process of music reproduction, yet simultaneously produces something new. Architecture has a similar nature. The thinker, the builder, and the user together give birth to architecture as a dynamic product. A beautiful progression through multiplied time-space.

No music stays the same. No music «is» the same. Nothing is more truthful than the reproduction of music. It unites us all in one. We are all one.