Historical Methods of Composing Electronic Music – Medium

3 days ago

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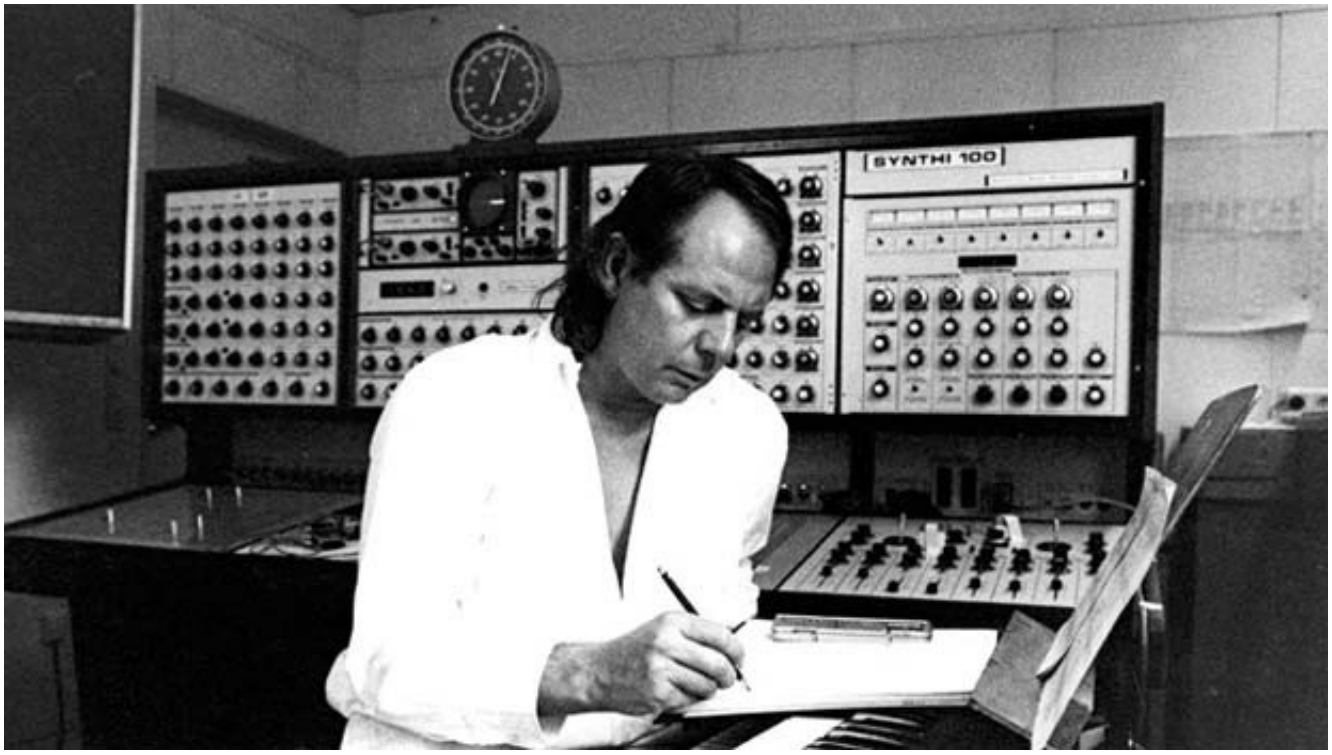


K. Stockhausen at work

Historical Methods of Composing Electronic Music

Composing music has never been a simple task. While there may be times the muse speaks to us and things seem to come effortlessly; every composer, from the most to least gifted, has experienced a time when they are absolutely and

utterly dumbfounded. This article is dedicated to the individuals in that place.

Below is a list of techniques electronic and experimental musicians have historically engaged to move them from that uninspired place into one where they may look at things with fresh ears and eyes. Please note, this is by no means a comprehensive list of techniques — rather the ones the author found most interesting on a personal and artistic level.

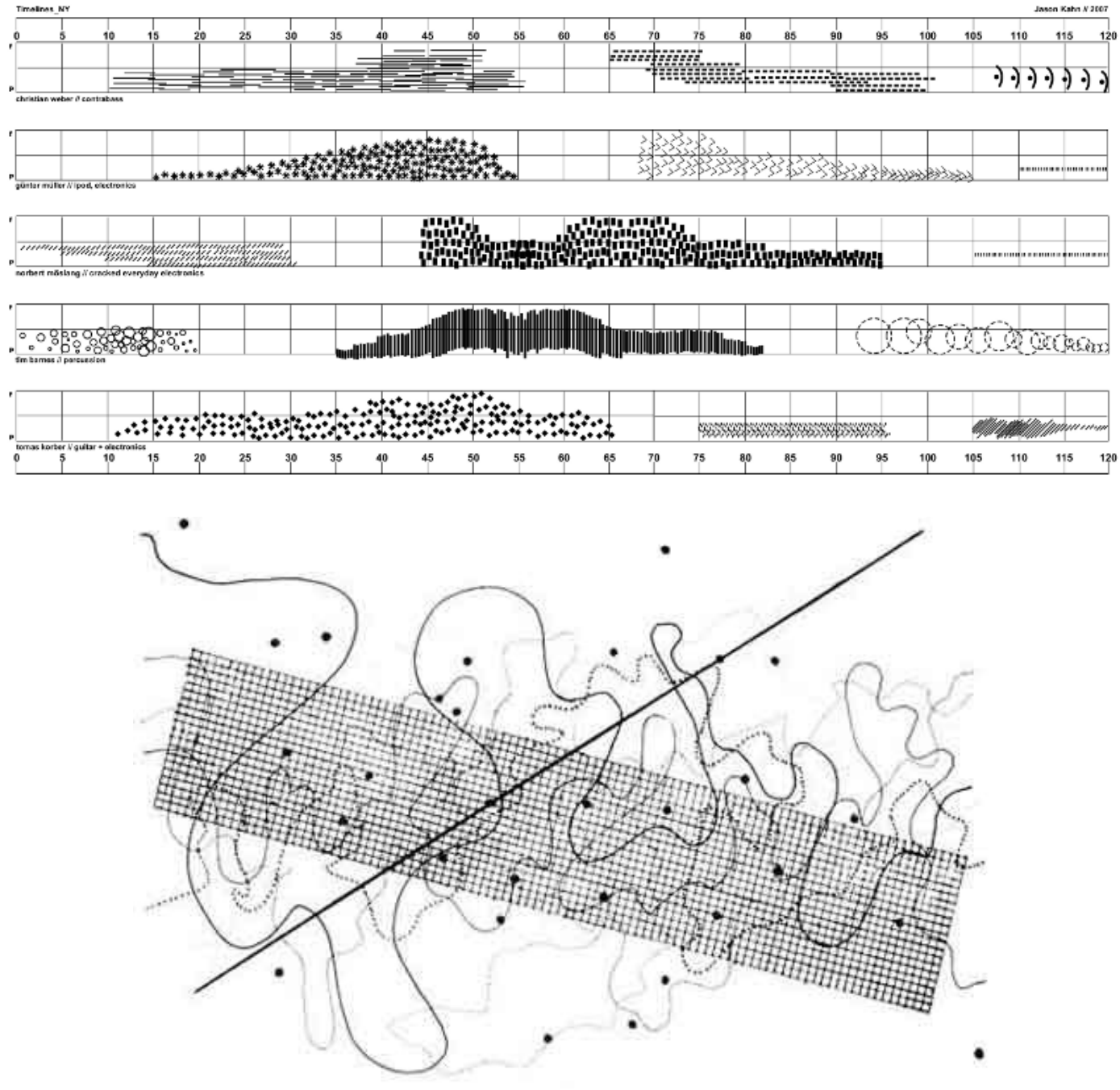
Sound Crafting

This is probably the most common method modern sound sculptors use to compose. The composer sits at an instrument or computer and works with the audio to create something compelling, arranging by instinct until a general structure forms.

While sound crafting is a good place to begin, it can sometimes lead to mediocre or at least familiar results.

Graphic Scores and Instructional Composition

These different approaches to scoring come from classical roots, but could be good in shaking up your process. A **graphical score** allow the composer to map out a series of changes in the technical components of the sound as the piece progresses. Traditional notation is usually jettisoned in favor of other symbols and visual systems to depict the timbrel evolution of sound in the piece.



A graphical score for John Cage's "Fontana Mix"

One of the most interesting variations on a graphical score is the **listening score**, which was created as a visual aid to help listeners follow more experimental compositions. In 1970, the artist Rainer Wehinger created such a score for Gyorgyi Ligeti's 1958 tape piece, *Artikulation*. It was later animated.

Instructional Composition is a method of composition involving written instructions that are given to musicians to perform the piece based on their

interpretations of the text. These usually detailed frameworks are interesting in that they prevent two performances of the same piece from being identical by relying on the performer's interpretation to give the music its character.

Serialism and Chance Operations

Serialism and Chance Operations are two approaches to composing music that came to the fore in the 1950s. Both are closely affiliated with the idea of pure abstract expressionism. By employing these techniques, composers hoped to divorce the themselves from the inborn compulsion to create "pretty" music—however, they achieve these ends in different ways.

Serialism subverts convention by creating complex rules for choosing notes and dynamics within the piece—but the sounds themselves usually conform to a traditional and accepted musical scale. The fixed series of notes used to generate the piece are subject to change only in specific ways as dictated by the composer. Stockhausen was a huge proponent of serialism.

Chance operations or aleatoric music, on the other hand, open the door to any and all sounds: pitched, unpitched, noise, ambiance, fuzz, talking, etc. Anything sonic falls onto the composer's potential palate, and the sequence of sounds is selected according to chance.

John Cage popularized this method, desiring the removal of not only the composer's taste from the final outcome, but also any amount of control or personal choice the creator wished to exert.

In 1950, Cage established a set of rules for doing this using random events dictated by the *I Ching*. Using random numbers to denote choices, or using the *I Ching* to determine the instrumentation or the characteristics of the sound, Cage made his name by seemingly giving up the music's authorship to chance.

> *"I have found a variety of ways of making music in which sounds are free*

> *of a theory as to their relationships. I do not hear music before making it, my purpose being to hear as beautiful something I have not before heard. Most of the ways I have found involve the asking of questions rather than the making of choices. The I Ching chance operations pinpoint among all the possible answers the natural ones to be used."—John Cage, 1985*

Throughout his career, Cage was a nonconformist. His works would involve rubbing contact microphones on plants and furniture, combining unlikely instrumentation and electronics, and the creative use of silence—all challenging the very nature of what we call music.

Brian Eno would later use a derivative technique he called Oblique Strategies, which was little more than a black box of index cards with short instructions on them. By referring to his Oblique Strategies at certain points in the recording and production process, the artist could be sent into new, uncharted, or at least unexpected directions. An online version. Oblique Strategies is also available as an app.

Process Music

Process music follows a predetermined set of rules that are integral to the experience of the final composition. It is another way to subvert the composer's personal taste from the piece and open it up to outside chance and non-determined influence.

Tape recorders and samplers have often been an integral part of process music—as a means of recording sounds as well as manipulating them.

One example of process music is Pauline Oliveros's *I of IV* (1966). In it, she used two tape recorders to create a tape delay—the defining process behind her piece. Sounds were recorded with the first tape recorder, and then played back by a second machine after an eight second delay. Once played, the tape was fed back into the record heads of the first machine with the addition of reverb. The result was a slow unfolding that changed dynamically as the

sounds continued to be repeated.

Looping + Frippertronics

Brian Eno riffed on this same technique in the late 1970s and 80s along with guitarist Robert Fripp. With two tape machines, he created a 3–5 second tape loop that continually recorded new sounds as it played back the old ones. As the recording progressed, the old sounds accumulated, faded, grained out, etc., while new sounds were continually added.

The process, later termed **Frippertronics**, became a popular way of creating an orchestra of sound using just one player and one instrument.

> *"Since I have always preferred making plans to executing them, I have gravitated toward situations and systems that, once set in operation, could create music with little or no intervention on my part. That is to say, I tend toward the roles of planner and programmer, and then become an audience to the results."—Brian Eno*

Generative Music

A variation on process music, **generative music** is a product of a self-running algorithm that once initiated, creates a musical outcome on its own without much (or any) additional human input. The composer's role in this is to set the rules and let it go. Generative music is frequently used in unattended music installations.

One technique employed widely in experimental electronic music utilizes different length loops—either tape loops, loops of digital audio, or loops created from several (or one subdivided) sequencer.

By juxtaposing several different and irregular length loops (i.e., not all composed of the same number of measures or steps), a piece of music could arguably go on for extended periods of time without ever repeating itself. Eno's Discreet Music is such a composition.

More recently, Eno created *Bloom* with Peter Chivers, an iPhone app that self generates ambient textures with or without the interaction of the user.

Thirty-seven Farewells by Stephan Moore is another example of generative music executed with computers. Essentially, Moore wrote a Max patch that would select an individual track from his music library, micro-sample 500–2000 milliseconds of it, loop it, pitch it, and play it for a period of time. Then it would choose another track, and do the same thing again. The piece repeats this process 37 times.

Drone / Minimalism

La Monte Young originated a series of techniques that were collated under the banner "minimalism" in the 1960s. One of his techniques was to pick specific pitches to be performed in a piece before composing it, and then limiting the note sequences to a strict set of of **intervals** that were, for example, multiples of seven, three, two and/or one. In this way, he made music consisting of "sine waves sustained in various relationships over one continues drone."

Young, along with some of his contemporaries, got deeply interested in letting music unfold incredibly slowly over long periods of time. These sustained, organically evolving sounds he would perform at times for hours or days consecutively, and then let the electronic tones drone on, unattended, for weeks or even months afterwards. An example would be his Dream House installation in New York, which can still be visited at the time of this writing.

Young's playing also had a tendency to repeat melodic phrases many times over, and in doing so, reducing the emotion and tension in the music, so that it did not appear to move. This was quite influential over fellow composer and friend, Terry Riley.

In his **Drift Studies**, Young set up two or more sine waves tuned to complimentary frequencies, and then allowed to drift out of phase over time, creating shifts in amplitude, and timbre.

> *"In electronic music, one has the opportunity not only to compose, but*

> *also to but also to pioneer new audio experiences.” — Thom Holmes*

Curious about more techniques for composing electronic music? Check out Thom Holmes’ excellent history of the genre.

And what about you? Do you have any techniques that have been effective in churning inspiration when you feel stuck? Please let me know in the comments below.

(This article originally appeared on my blog.)

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