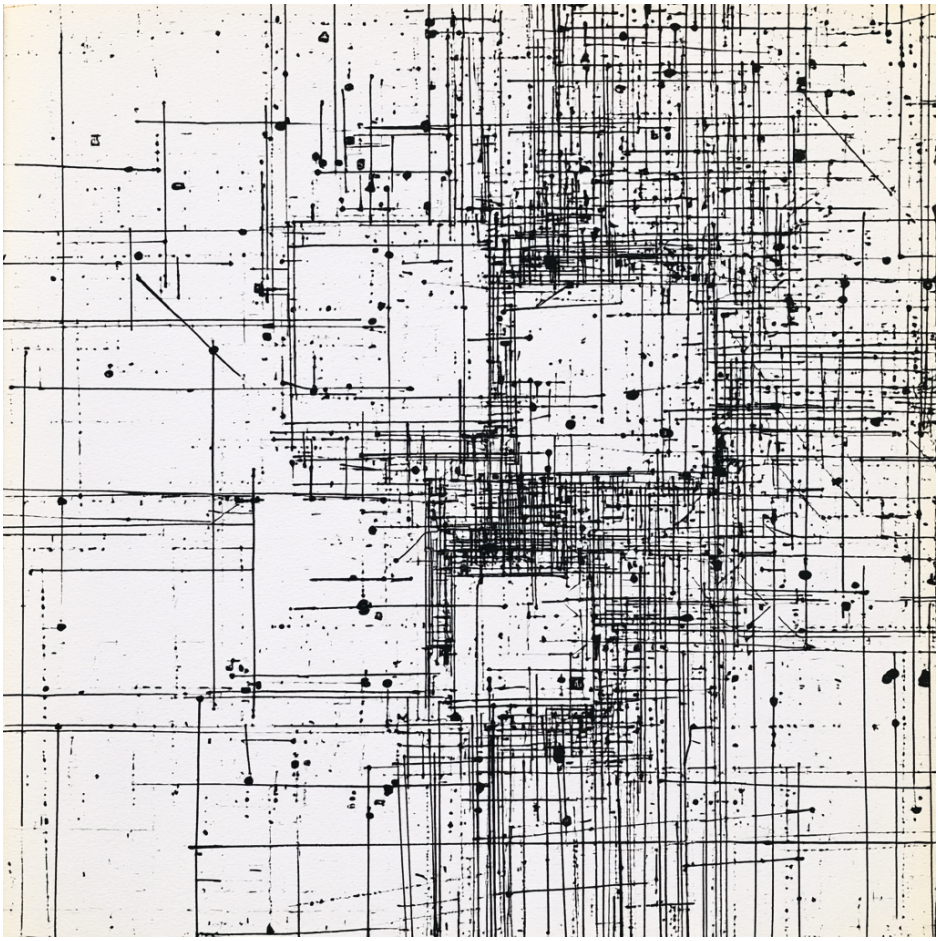
KOANS FOR THE STUDIO

On minimalism, texture, and the discipline of listening

Lessons from Satie, Cage, Eno, Pärt, Yorke, Penderecki, Ligeti, Xenakis, Radigue, Spiegel, Lucier, Lachenmann, Grisey, Scelsi, Partch, Feldman, Riley, Reich, Perich, Ikeda, Conrad, Young, Palestine, Branca, Niblock, Tenney, Amacher, Nakamura, Nancarrow, Eastman, Takemitsu, Oliveros, Frey, Beuger, Curran, Di Scipio, Collins, Basinski, Henry, Ferrari, Watson, Davis, Lockwood, Matmos, Neubauten, Z'EV, Test Dept, Die Krupps, Young Gods, Anderson, Ashley, Walker, Inoue, Koko, Group A, Adult., Pan Sonic, Barbieri, Malone, Davachi, Wire, Hollis, Radiohead & others



A NOTE FROM THE AUTHOR

This book grew out of forty years of studio practice that began before most of this music was easily findable, in Buffalo, New York, in the 1980s, with a four-track cassette recorder, a TR-606 drum machine, and an instinct toward texture and process that took years to fully name.

The investigation that produced it was partly the work of recognizing, through research and listening, what I had already been doing: the same question that runs through Lucier's room pieces, Xenakis's probability distributions, and Di Scipio's audible ecosystems, what does a system do when you give it a rule and get out of its way, is the question I had been working with from the beginning, before I knew any of their names. Knowing Tony Conrad, who was part of the Buffalo scene and whose entry you'll find in the drone section, gave me an early sense that this music had a real lineage, living and local, not just archived somewhere distant.

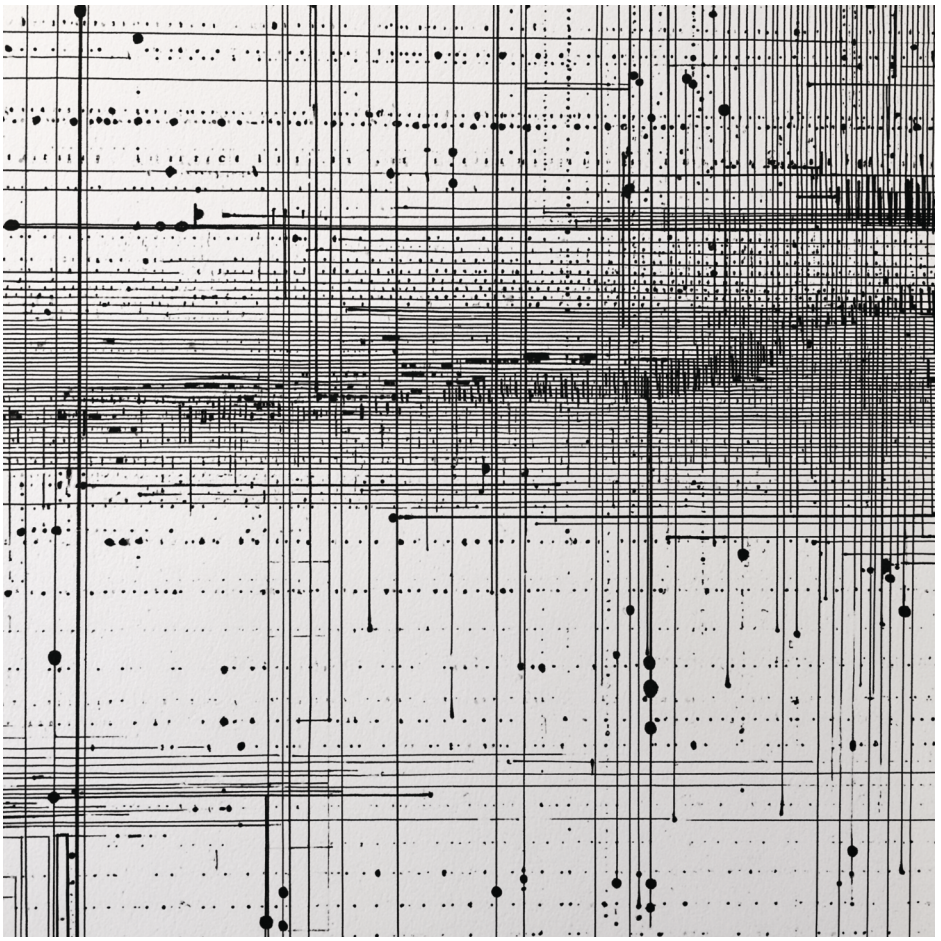
This guide is not a history of experimental music. It is a working document drawn from it: fifty-four koans, sixteen practical methods, forty-plus composer profiles, and a set of reference tools designed for use in a session rather than for reading about sessions. The audience it has in mind is anyone making music who suspects there is a tradition they have been circling without fully knowing its geography.

A word about the visual art. The images in this book were generated using Midjourney, an AI image synthesis tool. I don't view this as categorically different from the electronic and computer art traditions this book describes.

The 1960s computer art movement, Georg Nees, Vera Molnár, Manfred Mohr, Frieder Nake, was built on exactly this principle: encode a set of rules, let the system execute them, make curatorial decisions about the output. Midjourney sits on the same spectrum as the plotter drawings Nees exhibited in Stuttgart in 1965, which sit on the same spectrum as Xenakis's stochastic composition. The prompt is a score. The model is an instrument. The images here draw deliberately from that 1960s computer art vocabulary — stochastic geometries, Lissajous figures, plotter line work — because those images and this music emerged from the same thought at the same historical moment.

Use this guide however it's useful. Ignore what doesn't apply. Come back to what makes you uncomfortable.

— David Anderson, Buffalo NY



WHAT THIS IS

This is a field guide for studio practice. It exists because the music being made in this tradition, minimal, processual, material-based, drone-adjacent, noise-derived, has built up an extraordinary body of thought about how to make things. That thought is scattered across decades of interviews, liner notes, program notes, and the music itself. This guide gathers some of it in one place.

The composers here are teachers, not idols. You don't need to love their music. You need to understand what their practice reveals about your own. A single genuine question raised by twenty minutes with Radigue is worth more than an hour trying to sound like her.

The koans are not rules. They are prompts, brief disturbances designed to interrupt the momentum of habit. Sit with one. Disagree with one. Let it make you uncomfortable. That discomfort is usually the lesson.

The practical methods are experiments, not formulas. Some will work in your practice and some won't. The ones that feel most constraining are usually the most necessary.

Who this is for: anyone making music who feels the gravity of conventional structure pulling their instincts toward the familiar. Producers, composers, improvisers, sound artists, hardware builders, beatmakers who wonder why their tracks feel too full, songwriters who suspect they're resolving when they should be sustaining.

You don't need academic training. You need curiosity, a willingness to sit with difficulty, and something to make sound with.

HOW TO USE THIS GUIDE

There are several ways in:

Cover to Cover

Read it once without acting on it. Let it settle. Then return.

The Session Oracle

Before a session, roll three dice. The table on the following page generates a focus, a constraint, and a composer to listen to. Use the results as a frame, not a prescription. Ignore a result if it genuinely doesn't apply. Roll again if you need to.

By Problem

The Quick Reference section maps common studio frustrations to specific koans, methods, and listening. Start there when you're stuck.

By Study

Pick one composer. Spend a week with them. Listen with the question: what is this person actually doing, and why does it work? Then bring one specific thing back to your own practice.

Random Consultation

The koans are numbered 1–54. The practical methods are numbered M1–M16. Roll for one when you need a prompt or a constraint.

THE SESSION ORACLE

Roll three d6 before a session. Each die generates one component of a working frame for the day.

Die 1: Listen For

1. Where can you subtract?
2. What is the texture doing?
3. Where does the harmony want to resolve — and can you stop it?
4. What does the rhythm reveal without the melodic material?
5. How much silence is actually in this track right now?
6. Would you hear breathing between the parts?

Die 2: Constrain To

1. Max 3 simultaneous voices
2. No new layers for the first 20 minutes
3. Fix the bass on one note for one full section
4. One found sound must appear before anything else
5. Replace one chord with its parallel major or minor
6. Record the room before you touch an instrument

Die 3: Tonight's Study

1. Feldman or Frey (stillness)
2. Neubauten or Watson (material)
3. Radigue or Davachi (slow change)
4. Riley or Barbieri (pattern)
5. Eastman or Pan Sonic (intensity)
6. Anderson or Ashley (voice)

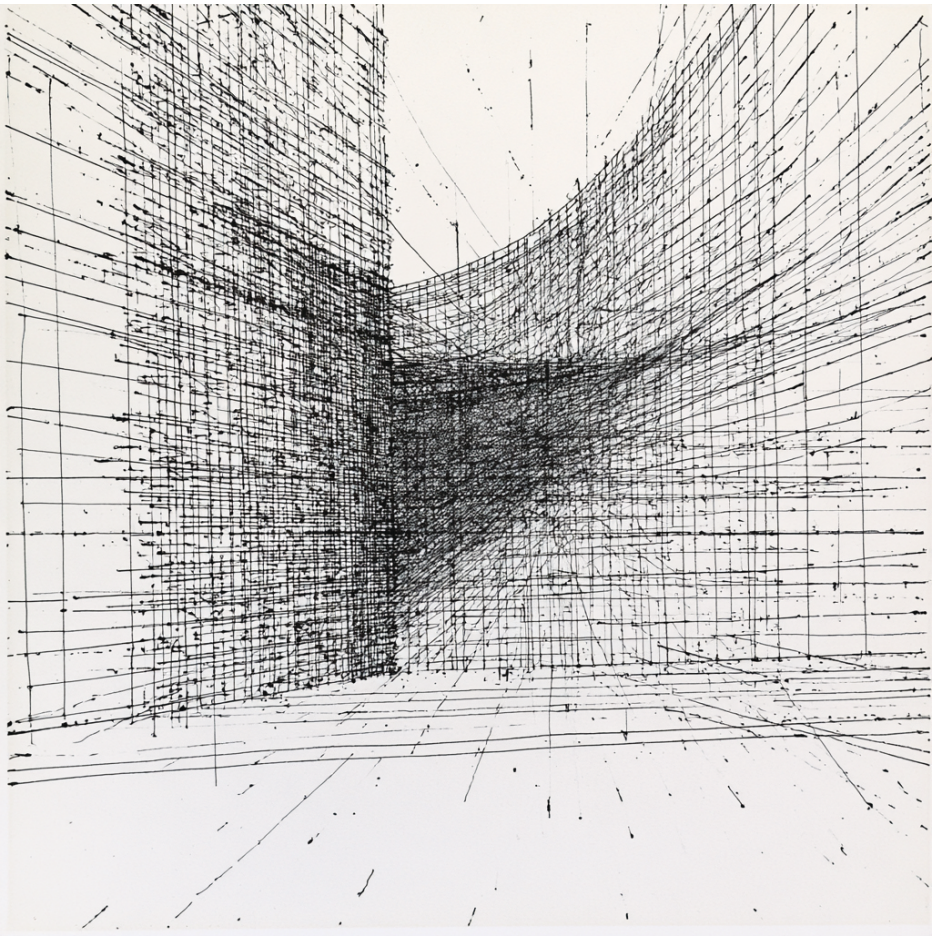
KOAN REFERENCE

Roll d6 to select a section, then roll the die shown for a koan within that range.

1. Koans for the Minimal Producer (K1–K10)
   roll d10
2. Koans from the Experimentalists (K11–K22)
   roll d12
3. Koans on Patience and Restraint (K23–K30)
   roll d8
4. Koans on Material and Object (K31–K38)
   roll d8
5. Koans on Harmony and Ambiguity (K39–K44)
   roll d6
6. Koans on Voice, Body, and Tech (K45–K54)
   roll d10

Method table: roll d20.

- Results 1–16 map directly to M1–M16.
- Results 17–20: pick the method you have been most actively avoiding.



KOANS FOR THE MINIMAL PRODUCER

1. *The room is already full. You are not adding sound: you are choosing which silence to keep.*

2. *A single note held long enough becomes a landscape.*

3. *The drum that isn't there is the one the listener feels most.*

4. *If you can't hear someone breathing between the parts, there's no room for anyone to live in the song.*

5. *Eno erases. Pärt waits. Yorke leaves the wound open. What are you afraid will happen if you stop?*

6. *The impulse to add is not generosity. It is doubt.*

7. *A song with three elements and commitment will always defeat a song with twelve elements and apology.*

8. *Complexity is not depth. A puddle can be complicated. An ocean is simple.*

9. *Your hands want to play. That is their job. Your job is to know when your hands are wrong.*

10. *Most of what you record should not survive. The act of discarding is compositional.*

KOANS FROM THE EXPERIMENTALISTS

11. *What does this sound want to become if I multiply it? The composition isn't the note: it's the behavior of the mass.*

12. *You already have more than you need. Don't reach for another sound. Move closer: change your listening, not your source material.*

13. *Every space is an instrument, and repetition is transformation. Let entropy work. The errors are the piece.*

14. *Every device has sounds it wasn't designed to make. Use it at its edges.*

15. *Stop thinking in measures. Think in densities and durations. How long does this sound need to exist?*

16. *What if the silence between sounds is the actual composition? Place a single event. Wait until the room has fully absorbed it. Then place the next one.*

17. *The narrower the means, the deeper you're forced to listen.*

18. *Design a process and then get out of its way. Your job is to start the system and decide when to stop it.*

19. *You don't need to explain what the music is about. The sound already knows.*

20. The drift between two identical things is more interesting than either one alone.

21. A rule you can't fully predict is more generative than a plan you can.

22. The system generates what you couldn't have chosen. That is why you use the system.

KOANS ON PATIENCE AND RESTRAINT

23. *Don't make less. Change slowly. The music will teach the listener how to hear it.*

24. *The interesting sound is always smaller and quieter than the obvious one. Dig under its skin.*

25. *Three months of saying no is not wasted time. It is the composition.*

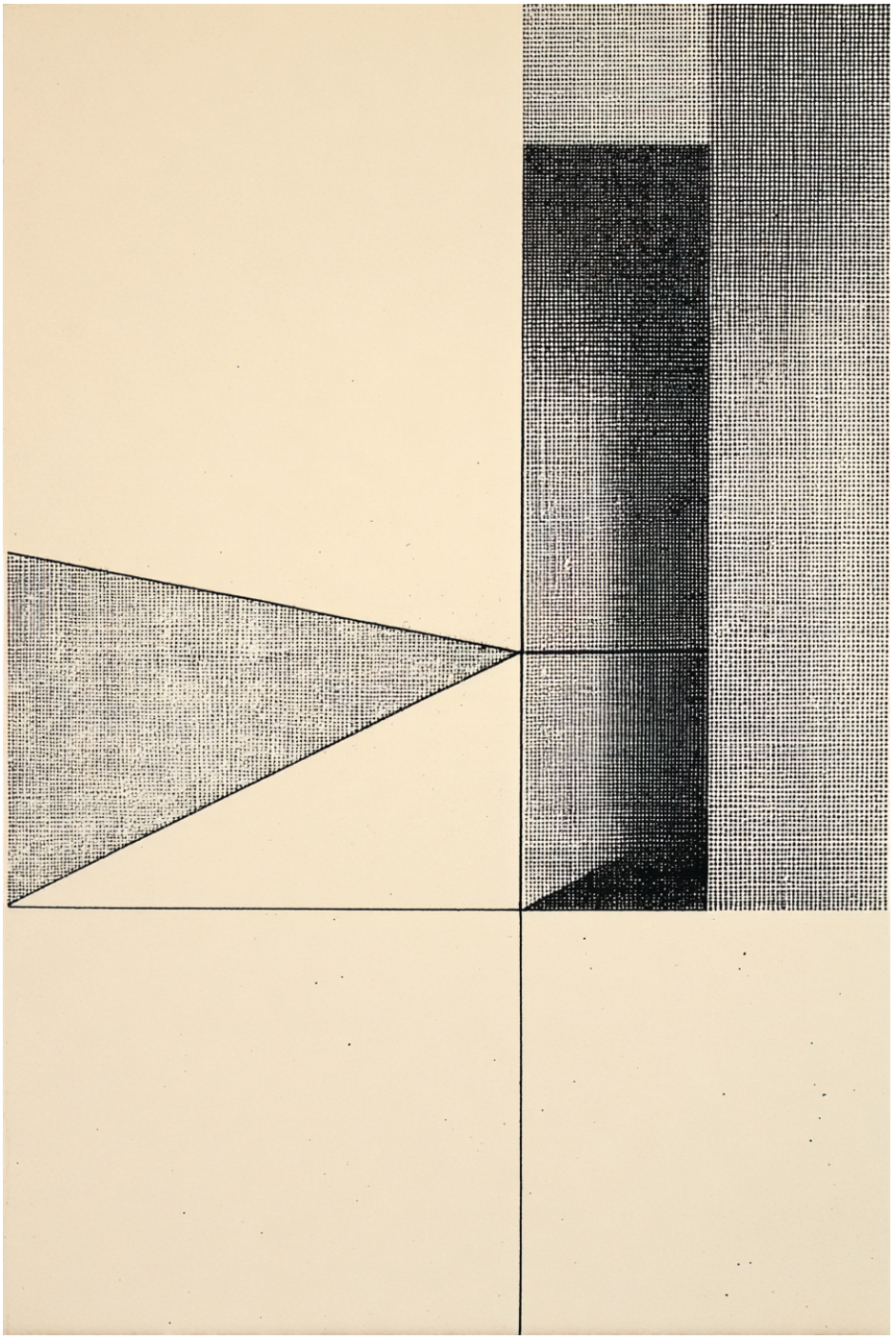
26. *Stop looking at the screen. Touch the sound itself. Work on the thing, not a picture of the thing.*

27. *One instrument for twenty-five years is not limitation. It is liberation. The galaxies are inside, not outside.*

28. *Constraints are generative. Prohibitions are suffocating. Know the difference.*

29. *You are not making drone music, or ambient, or minimal. You are making the sound you want to hear. The categories belong to other people.*

30. *Commit completely. Then, when the time comes, abandon everything and start again. The depth carries over.*



KOANS ON MATERIAL AND OBJECT

31. *Every object already contains its music. A steel pipe has a pitch. A spring has a melody. Your job is not to impose, it is to listen.*

32. *Timbre is the melody. When the sound is rich enough, pitch becomes optional.*

33. *The instrument that can destroy can also whisper. Brutality and beauty are the same practice at different intensities.*

34. *Don't impose a grid on the material. Hit it, then let the decay tell you when to hit it again. The object knows its own rhythm.*

35. *Your room is not a container for the music. It is part of the music.*

36. *A struck metal sheet is the drum, the bass, and the melody simultaneously. The hierarchy you were taught is a suggestion, not a law.*

37. *Every instrument is a collection of sounds it was designed to suppress.*

38. *What the material forgets is as musical as what it remembers.*

KOANS ON HARMONY AND AMBIGUITY

39. *Two keys, blurred together, are more expressive than either one alone. The space between them is the actual key.*

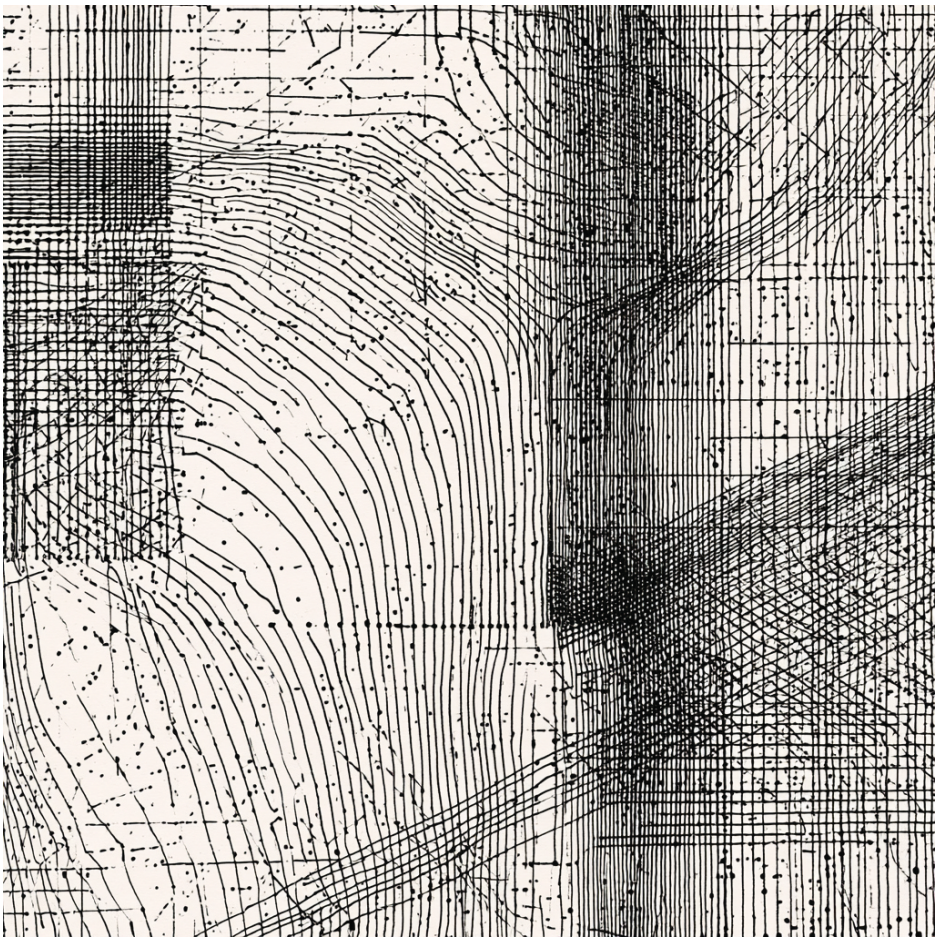
40. *A chord that refuses to declare itself major or minor leaves room for the listener to feel both.*

41. *The melody says rescue. The harmony says something more complicated. Let them disagree.*

42. *Resolution is a door you can choose not to walk through. The hallway is where the emotion lives.*

43. *One fixed bass note and a shifting sky above it; the stillness makes the movement visible.*

44. *Give the players a key, not a map. The music that results is theirs, and therefore true.*



KOANS ON VOICE, BODY, AND TECHNOLOGY

45. *The voice processed through a machine doesn't become less human. It becomes more honest: the machine reveals what politeness hides.*

46. *Storytelling is a compositional structure. A phrase repeats because the idea demands it, not because the form does.*

47. *The body in the room is a sound source. The breath, the weight, the space between performer and listener — all of it is material.*

48. *Urgency doesn't require density. One synth, one drum machine, one voice, nowhere to hide. That's enough.*

49. *Music that disappears into the room is not a failure. Satie called it furniture. The room needed furnishing.*

50. *The work that looks like a joke from inside the current consensus may be the one that survives it.*

51. *The years you spend not finishing things are not wasted. Sometimes the silence before the new method is the method arriving.*

52. *The tool you're embarrassed to mention is probably the one doing the most interesting work.*

53. *The sound that requires stillness to hear has already changed the room.*

54. The sounds happening around you while you work are not interruptions. They are the other piece.

PRACTICAL METHODS

M1 The Subtraction Workflow

Build the track the way you normally would: go ahead, make it too full. Then mute elements one at a time and sit with each removal for a full minute. The song was hiding underneath.

M2 The Three-Voice Rule

At any given moment, three simultaneous voices maximum. If you want to introduce a fourth, something else has to leave. This is what Pärt does with tintinnabuli.

M3 Commit to the Loop Earlier than Feels Safe

Lock a loop and spend 20 minutes only adjusting filter cutoff, reverb decay, and volume. You'll be surprised how much movement lives inside a static pattern.

M4 Record Your Live Instruments First

Track them early, even rough takes, and build the electronics around them. You won't fill the space if the space is already claimed.

M5 The Walk Away Test

Play your track from another room. What survives the hallway is the skeleton of the song. Everything else is negotiable.

M6 One Oscillator, One Filter, One Effect

Then make something that holds attention for five minutes. If it can't, the problem isn't your tools.

M7 Study Negative Space Directly

Listen to Pärt's Spiegel im Spiegel or Eno's Music for Airports 1/1 and count how much of the runtime is silence or decay. It's often 40–60%. That number is a target, not an accident.

M8 The Relative Major/Minor Blur

Pick a minor key and its relative major. Write your progression using chords from both without committing to either as home. If you're in D minor, borrow freely from F major. Don't resolve. Let the listener decide where home is.

M9 Borrow One Chord

Take a diatonic progression and replace one chord with its parallel major or minor. A minor becomes A major. C major becomes C minor. One wrong chord is all it takes to make a familiar progression feel uncertain and alive.

M10 The Pedal Tone Test

Fix your bass on one note for an entire section. Move everything else. The stillness of the root will make the upper movement feel more vivid, the way a drone makes every passing tone significant.

M11 Suspend, Don't Declare

Replace a major or minor chord with its sus2 or sus4. You lose certainty and gain space. The listener's ear will fill in the third that isn't there, and what they fill in will be more emotionally true than what you would have chosen for them.

M12 The Contact Mic Experiment

Attach a contact microphone to metal objects, wooden surfaces, pipes, springs, anything in your environment. Record everything. Every object has a pitch, a resonance profile, and a decay character. These are instruments no sample library contains.

M13 Found Sound First

Build a rhythm entirely from recorded found sounds before adding any conventional instruments. Then ask whether the conventional instruments are even needed. If the answer is yes, they should be responding to the found sounds, not replacing them.

M14 Let Physics Do the Mixing

When a struck object rings, that ring contains its own reverb, EQ, and arrangement. Resist the urge to process it. The natural acoustic properties of materials are more complex and interesting than any plugin chain.

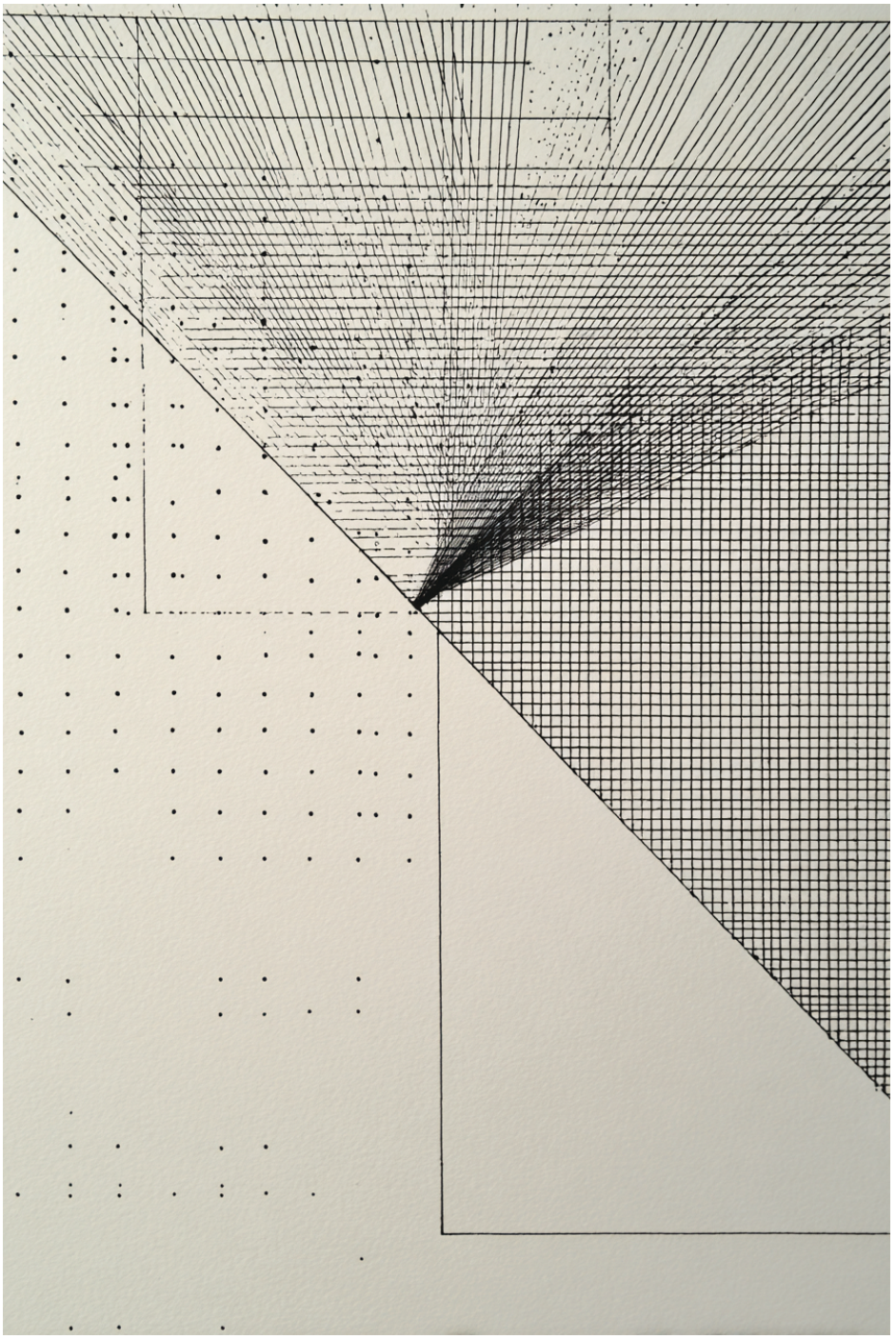
M15 The Voice-as-Texture Test

Record yourself speaking — not singing, speaking. Process it: pitch-shift, loop a syllable, run it through a filter. Listen to the rhythm and melody that were already in your speech. Build a piece around what you find. The music was in the voice before you touched a synth.

M16 The Markov Pass

Take a piece of existing material, your own, or a recording you have the right to use. Slice it into fragments using a probability-based sequencer or randomized loop tool. Edit what comes out. Run it through again. Do this fifteen to twenty times. What remains at the end is a new composition whose source is audible but transformed past recovery. The constraint is the material; the generative system makes the decisions. Your job is to know when to stop.

The listener wants to fill in the gaps: that's where the emotional experience lives. Your job is to leave room for them to do that work.



THE COMPOSERS

What they teach and where to start listening

On Foundations and Permission

The figures in this section didn't invent the specific techniques described later in this guide: they created the conditions in which those techniques became thinkable.

Cage established that silence is a compositional material and that process can be a score. Satie declared that music could be designed to dissolve into its environment. Pärt demonstrated that a single rule, followed without compromise, can generate an entire compositional language. Eno systematized all three into a studio practice.

Everything else in this document works in the space they opened.

ERIK SATIE

Three ideas that arrived fifty to seventy years before the tradition that would build on them. Vexations (1893) is a 52-bar piece marked to be performed 840 consecutive times — no explanation, no precedent in Western music for using duration itself as primary compositional material. John Cage organized the first complete performance in 1963; it lasted 18 hours and 40 minutes. The piece is the root of the entire durational tradition in this document. Musique d'ameublement, furniture music, was his term for music designed to be part of the environment rather than attended to; he performed it at a Paris gallery in 1920 and was irritated when the audience stopped talking to listen. That is exactly the premise of Eno's ambient work, 58 years later. The Gymnopédies and Gnossiennes are modal, harmonically ambiguous, and non-resolving; the Gnossiennes carry no time signature and no bar lines and use scales outside the Western tonal vocabulary of the period. He

spent decades working as a café pianist, largely dismissed, and outlasted the dismissal by not caring about it. That persistence is its own lesson.

- ► Gymnopédies (1888) — three pieces, each a lesson in sparseness and suspension
- ► Gnossiennes (1890–97) — no bar lines, no time signature; modal and harmonically strange
- ► Vexations (1893) — the durational statement; Cage's 1963 recording is the most accessible version

JOHN CAGE

The philosopher-composer who established the permission for everything else in this document. His prepared piano, ordinary objects (bolts, screws, rubber) inserted between the strings of a concert grand, demonstrated that any sound source is a legitimate compositional instrument. His chance operations, using the *I Ching* to determine every compositional parameter, established process as score. 4'33" declared that all sound is music, including the sounds an audience makes during four minutes and thirty-three seconds of performed silence. These weren't provocations: they were serious compositional positions. Cardew studied directly with him; Oliveros's Sonic Meditations are direct descendants of his text scores; Feldman was his closest associate for decades. Everything in this guide exists in the space Cage opened.

- ► Sonatas and Interludes (1948) — prepared piano; an instrument reinvented by bolts and rubber
- ► Music of Changes (1951) — every compositional decision made by I Ching consultation
- ► 4'33" (1952) — the room, the audience, and all their sounds are the composition
- ► Variations IV (1963) — any sounds, any number of performers, in any space

ARVO PÄRT

After working as an Estonian composer in the Soviet modernist tradition, Pärt spent years in silence, not composing, not publishing, waiting. When he emerged, he had a method: tintinnabuli (from the Latin for 'little bells'). One voice moves melodically, usually stepwise; a

second arpeggiate the tonic triad. That is the entire rule. The result sounds like plainchant heard through still water: unambiguous in its emotion, unanswerable in its structure. His arc is itself instructive: he composed himself into a corner, stopped completely, and came out the other side with something simpler and more durable than anything that preceded it. The constraint arrived as a gift after a long silence.

- ► Spiegel im Spiegel (1978) — piano and violin; the tintinnabuli system at its most transparent
- ► Tabula Rasa (1977) — two violins, prepared piano, strings; silence as architecture
- ► Fratres (1977) — exists in many arrangements; the same structural logic in different timbres

BRIAN ENO

Established that the producer is a composer, that a rule you can't fully predict is more generative than a plan you can, and that music can exist at the threshold of perception, heard and not heard simultaneously. His Oblique Strategies cards (co-created with artist Peter Schmidt) encode creative interruptions designed to break the momentum of habit in the studio: 'Honor thy error as a hidden intention.' Discreet Music is a loop piece: a synthesizer melody fed through a long tape delay, overlapping passes gradually blurring into harmony. Music for Airports was designed to be as listenable when attended to as ignorable when it isn't. Both are process pieces — and both are Satie's furniture music realized with the technology available in 1975 and 1978.

- ► Discreet Music (1975) — a loop and its accumulations; process as composition
- ► Ambient 1: Music for Airports (1978) — the founding document of functional ambient
- ► Another Green World (1975) — where the production philosophy meets song structure
- ► Thursday Afternoon (1985) — one chord, one hour; the logic taken to its limit



On Systems and Phase

Riley and Reich established that repetition is not structural scaffolding but compositional transformation: that identical material, allowed to drift slightly out of alignment or simply held over time, generates complexity without additional compositional input.

The loop is not static. The drift between two identical things is more interesting than either one alone. This is the foundation of every DAW-based loop practice currently in use.

TERRY RILEY

The foundational voice for repetition-as-composition. Identical material played slightly out of sync generates enormous complexity from minimal means. A Rainbow in Curved Air is essentially a one-person loop performance decades before DAWs existed.

- ► In C (1964) — 53 short phrases, performers move through at their own pace; no two performances are identical
- ► A Rainbow in Curved Air (1969) — layered keyboard patterns, delay-heavy, hypnotic
- ► Persian Surgery Dervishes (1972) — pure trance through sustained repetition

STEVE REICH

Discovered phasing by accident when two tape recorders playing the same loop drifted slightly apart in tempo. His early tape pieces are techniques you can replicate in a DAW tomorrow. His ensemble work teaches how rhythmic pulses can breathe like a living thing.

- ► Come Out (1966) — a single spoken phrase phase-shifted until language becomes pure rhythm
- ► It's Gonna Rain (1965) — tape loops drifting apart, speech dissolving into texture
- ► Music for 18 Musicians (1976) — rhythmic pulses that swell and contract organically

On Stochastic and Algorithmic Systems

Where the previous section uses process to reveal complexity inside simple material, this section uses mathematics to generate the material itself.

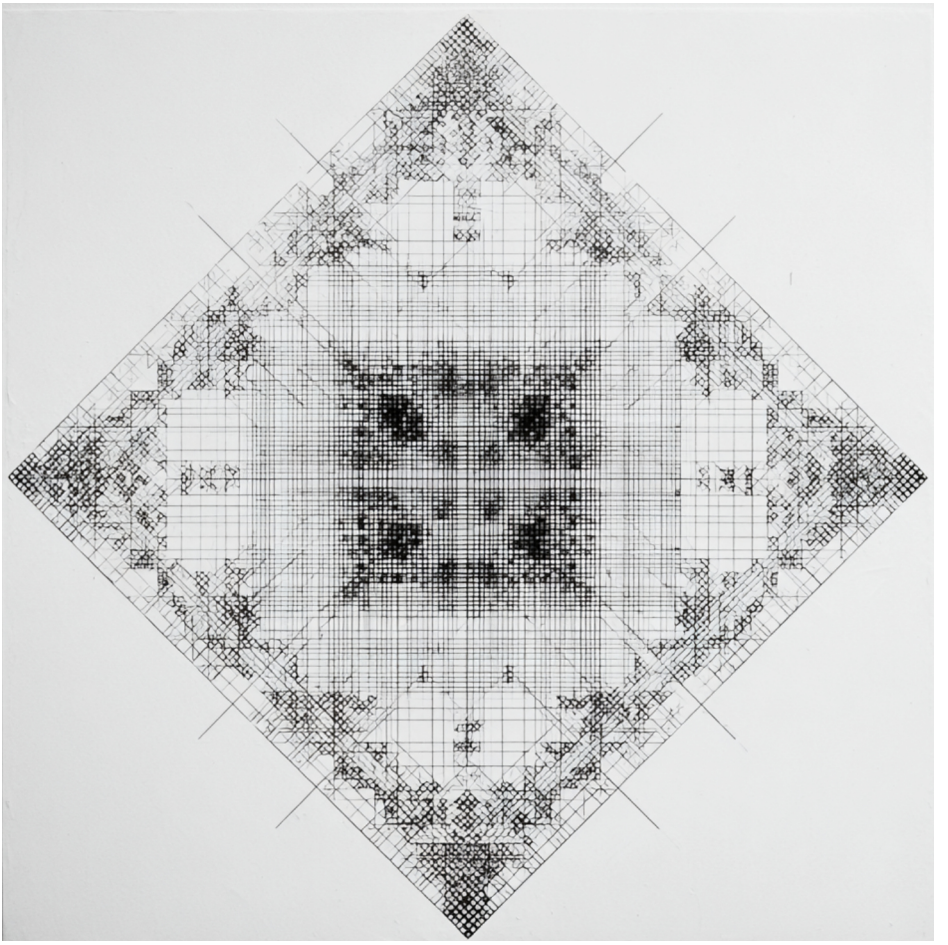
Xenakis doesn't select notes, he designs probability distributions from which notes emerge. The composer becomes the architect of a decision-making system rather than the maker of decisions.

This is the clearest historical precedent for every algorithmic composition tool that followed.

IANNIS XENAKIS

A Greek-French composer and architect who used probability theory and stochastic processes as compositional tools, not to describe music after the fact, but to generate it. He worked in the Paris office of Le Corbusier, the Swiss-French architect who was one of the defining modernist figures of the 20th century, and contributed the mathematical curves for the Philips Pavilion at the 1958 Brussels World's Fair, then used the same mathematics to generate the string glissandi in Metastasis. His UPIC system let you draw waveforms and pitch trajectories as freehand curves on paper, which the computer then realized as sound.

- ► Metastasis (1954) — the first major stochastic work; a string mass unfolding from mathematical law
- ► Pithoprakta (1956) — strings as statistical populations in motion
- ► Persepolis (1971) — eight-track electronic work of apocalyptic scale



On One-Bit, Data, and Radical Reduction

This section takes the reductive impulse to its computational extreme. Both composers here ask: what is the minimum amount of information required to make music?

Perich answers with a single bit, on or off, nothing between. Ikeda strips data of all human mediation and translates it directly to sound.

Both arrive at genuinely beautiful results from the most restricted possible means.

TRISTAN PERICH

An American composer who encodes symphonies onto single microchips generating square waves. One bit of audio resolution, on or off, nothing between. And yet genuinely beautiful. The crudest possible sound source, treated with compositional rigor, can be as expressive as a full orchestra.

- 1-Bit Symphony (2010) — a five-movement symphony on a single microchip, sold as a circuit board in a CD case
- Noise Patterns (2016) — 1-bit electronics against acoustic ensemble

RYOJI IKEDA

Japanese composer who translates raw data streams, numbers, binary sequences, visual noise, into sound with mathematical exactness. The relationship to data is compositional: the music is structurally identical to its source material. The visual and audio work are always made together; each informs the other.

- +/- (1996) — the entry point; minimal, precise, near-inaudible
- Test (2002) — data sonification at full intensity
- Dataplex (2005) — the most developed statement

On Drone and Deep Time

The composers here share a relationship to time that most Western music practice rejects: not the time of development, climax, and resolution, but time as a field in which sustained sound generates its own internal events.

Hold a tone long enough and it begins to produce overtones, combination tones, and beating patterns: sounds that emerge from physics rather than intention. The drone tradition is not about stasis. It is about what happens inside stasis when you pay close enough attention.

LA MONTE YOUNG

The American composer most responsible for establishing sustained tone as a compositional form. When two frequencies are held simultaneously, they interact to create phantom tones, combination tones and beating patterns that neither player is generating.

- ► The Well-Tuned Piano (1964–present) — six hours in just intonation; even 20 minutes teaches
- ► Composition 1960 #7 — a perfect fifth, held, the most minimal possible composition

TONY CONRAD

American composer and filmmaker who was a member of the Dream Syndicate, a New York drone ensemble formed in the early 1960s comprising La Monte Young, Conrad, Marian Zazeela, John Cale (later of the Velvet Underground), and Angus MacLise. The group was the foundational ensemble of American drone minimalism; Conrad's bowed violin work from this period was not released until decades later. Four bowed drones create beating patterns and combination tones: two frequencies held together long enough start generating a third sound that neither player is producing.

- ► Four Violins (1964) — sustained bowing, combination tones, raw harmonic physics
- ► Early Minimalism, Volume One (1997) — recordings from the Dream Syndicate era, finally released 30 years later

GLENN BRANCA

New York composer who built tuned guitar orchestras producing harmonic fields of near-physical density. The guitars aren't playing chords, they're tuned to generate specific overtone relationships and sustained until combination tones emerge from the mass. At sufficient volume, the harmonic interactions produce sounds no individual instrument is generating. He belongs in the drone lineage, not the rock one.

- ► The Ascension (1981) — the entry point; guitar ensemble as harmonic generator
- ► Symphony No. 3 'Gloria' (1983) — fuller orchestral scale, overtone architecture

CHARLEMAGNE PALESTINE

American composer who hammers two piano notes with escalating intensity for over an hour. The piano starts resonating in ways it wasn't designed to, producing overtone clouds. Sustained energy applied to a simple system reveals hidden complexity.

- ► Strumming Music (1974) — two piano notes, escalating intensity, overtone revelation

ÉLIANE RADIGUE

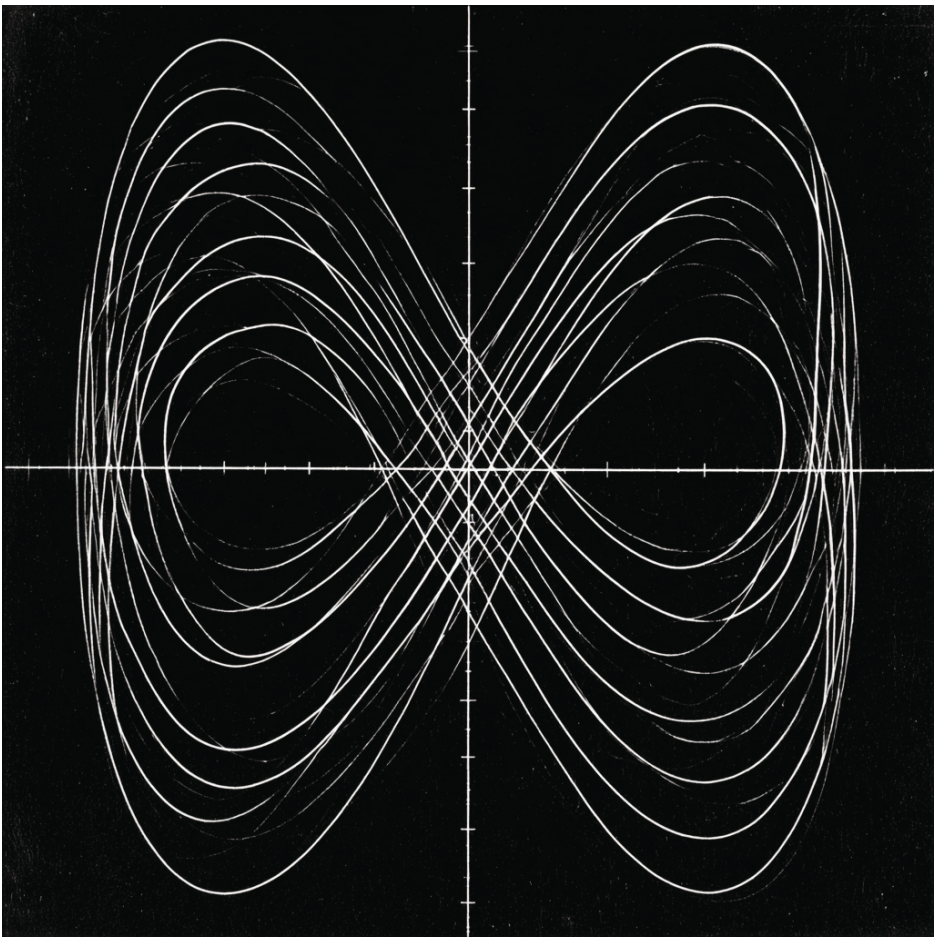
French composer who called her ARP 2500 analog synthesizer 'Jules' and spent twenty-five years with it, making slow-change music that retrains the listener's perception of time. She would work for months, ejecting every large effect until she found a tiny field of sound that interested her, then dig under its skin. In her seventies she reinvented herself entirely, shifting to acoustic collaboration — no longer using electronics at all.

- ► Trilogie de la Mort (1988–98) — three hours of analog drone informed by Tibetan Buddhist practice
- ► Adnos I–III (1974–80) — hour-plus suites of feedback, synthesis, and drone
- ► Occam Ocean series (2011–present) — acoustic works, a complete late reinvention

WILLIAM BASINSKI

American composer who discovered his defining process by accident: old analog tape loops physically shedding their magnetic oxide coating during digital transfer, the music dissolving in real time. He recorded the loops until they were silent. Entropy as composition: the loop still present, the pattern still recognizable, but the carrier medium dying beneath it. No other body of work makes the process koan — 'design a system and get out of its way' — more literal. The machine's mortality is the score.

- ► Disintegration Loops I–IV (2001–2002) — start with DL I
- ► On Reflection (2016) — Debussy samples degraded past recognition into pure texture



On Spectral and Harmonic Physics

Where the drone tradition uses sustained sound to reveal acoustic physics empirically, by playing and listening, the composers here take the same physics and use it as compositional raw material analytically.

Grisey analyzes a sound before composing from it. Scelsi inhabits a single pitch and maps its interior. Niblock creates beating fields through microtonal layering. Tenney theorizes the ear's harmonic perception. Partch builds instruments to access relationships that equal temperament suppresses.

They are all asking the same question: what does sound actually consist of, beneath the conventions of notation?

GÉRARD GRISEY

French composer who founded spectral music. He analyzed the overtone series of a single trombone low E, its frequencies, amplitudes, and decay rates, and used that acoustic data as the raw material for an orchestral score. Each partial of the complex tone becomes a note held by a different instrument for the duration corresponding to its natural decay time. The composition is derived entirely from the physics of one sound event.

- ► Partiels (1975) — the foundational spectral work; one note becomes a 20-minute orchestral piece
- ► Vortex Temporum (1994–96) — the spectral language fully developed
- ► Les espaces acoustiques (1974–85) — the complete cycle; entry point is Partiels

GIACINTO SCELSI

Italian composer who wrote pieces for single notes, one pitch, explored microtonally, each piece a study in the interior of one sound. Quattro Pezzi su una nota sola is four pieces, one note each, exploring the microtonal universe around that pitch: shifts in color, intensity, and inner vibration over time. He said he was a medium,

not a composer. The result is music that asks you to hear a single sound as a complete world.

- ► Quattro Pezzi su una nota sola (1959) — four pieces, one note each
- ► Anahit (1965) — for violin and orchestra; one instrument as drone protagonist
- ► Konx-Om-Pax (1969) — choir and orchestra exploring the interior of sound

PHILL NIBLOCK

American filmmaker and composer who layers dozens of recordings of sustained tones, all slightly detuned from each other, creating a harmonic field of enormous density full of beating patterns. The beating makes it feel like it is breathing.

- ► Music by Phill Niblock (1971) — the essential starting point
- ► Touch Food (2002) — later work, same dense layering

JAMES TENNEY

American composer and theorist who worked at Bell Labs, AT&T's research facility where some of the earliest digital computer music was made in the early 1960s, alongside Max Mathews, who invented the first music programming language. He developed a theory of harmonic perception based on proximity in the overtone series rather than conventional tonal function. Having Never Written a Note for Percussion is a single 10-minute arc: a tam-tam struck once, building to full force and dissipating, one unbroken gesture, complete.

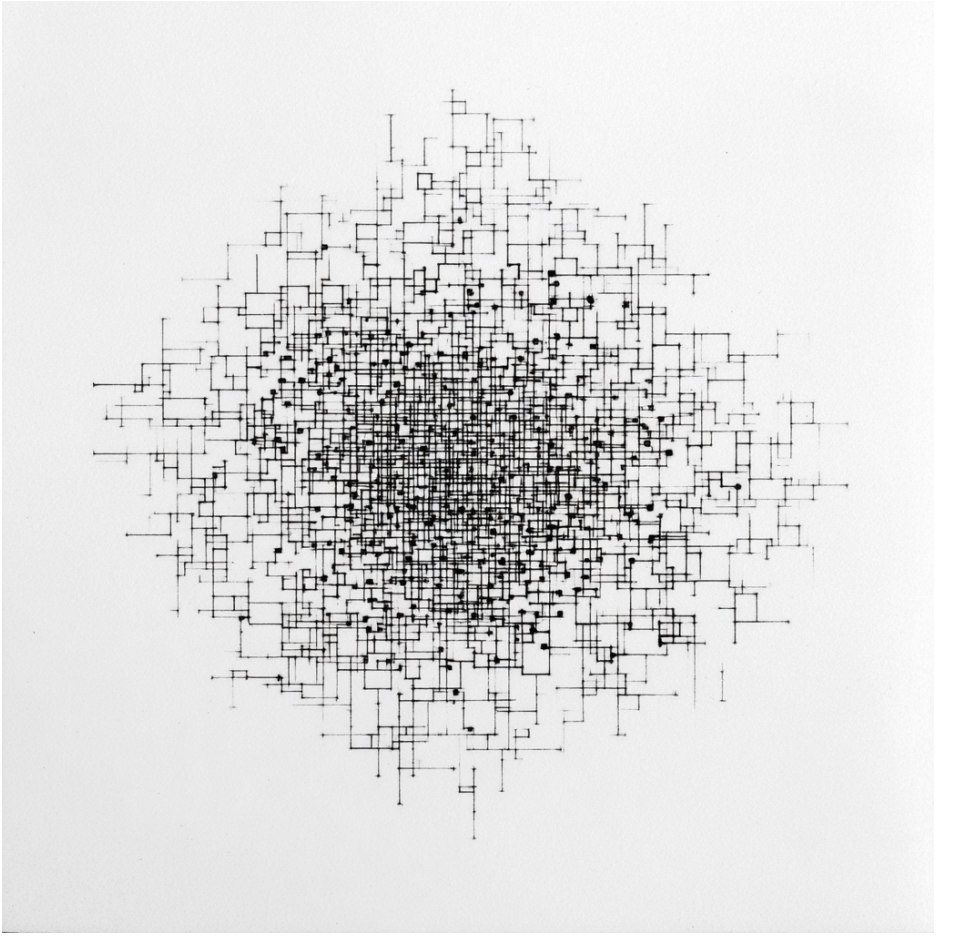
- ► Having Never Written a Note for Percussion (1971) — one unbroken dynamic gesture
- ► For Ann (Rising) (1969) — a rising tone in computer-generated sound that never arrives

HARRY PARTCH

American composer who built over 40 instruments from salvage, laboratory glassware, and artillery shell casings, and composed entirely for them in a 43-tone just

intonation system derived from the natural harmonic series. He rejected equal temperament as a historical compromise that flattened harmonic richness for the sake of convenience. He was poor for most of his life, rejected by every institution. The lesson: if the available instruments won't make the sound you need, build the instruments.

- Barstow (1941) — hitchhiker inscriptions from a California highway; the most accessible entry
- The Bewitched (1955) — satyr play for his full ensemble
- Delusion of the Fury (1969) — the complete vision; his full instrument family



On Modal Jazz and Non-Resolution

A single entry that earns its own section. Davis's modal records are the most culturally accessible documents in this guide, recognizable, warmly recorded, unintimidating, and yet they are doing exactly what the document's harmony koans describe: suspending functional resolution, giving performers a space rather than a destination, trusting the sustain.

For many readers, Kind of Blue will be the record they already know. It is also the most important gateway in this guide.

MILES DAVIS

Kind of Blue moved jazz from chord-to-chord functional harmony, where each chord demands the next, into modal playing, where a single scale governs a long passage and the harmony doesn't need to arrive anywhere. The musicians were given scales and two-line sketches the morning of the session; most recorded what you hear on their first attempt. In a Silent Way was assembled from hours of studio improvisation by Davis's producer and editor Teo Macero, a staff producer at Columbia Records whose tape editing was itself a compositional act, cutting and looping material into slowly evolving form. Both records teach non-resolution more accessibly than almost anything else here.

- ► Kind of Blue (1959) — the essential modal teaching; the most accessible non-resolution record in existence
- ► In a Silent Way (1969) — process-based assembly, slow change, the jazz version of drone
- ► Bitches Brew (1970) — the same spatial logic at higher intensity

On Micropolyphony and Dense Texture

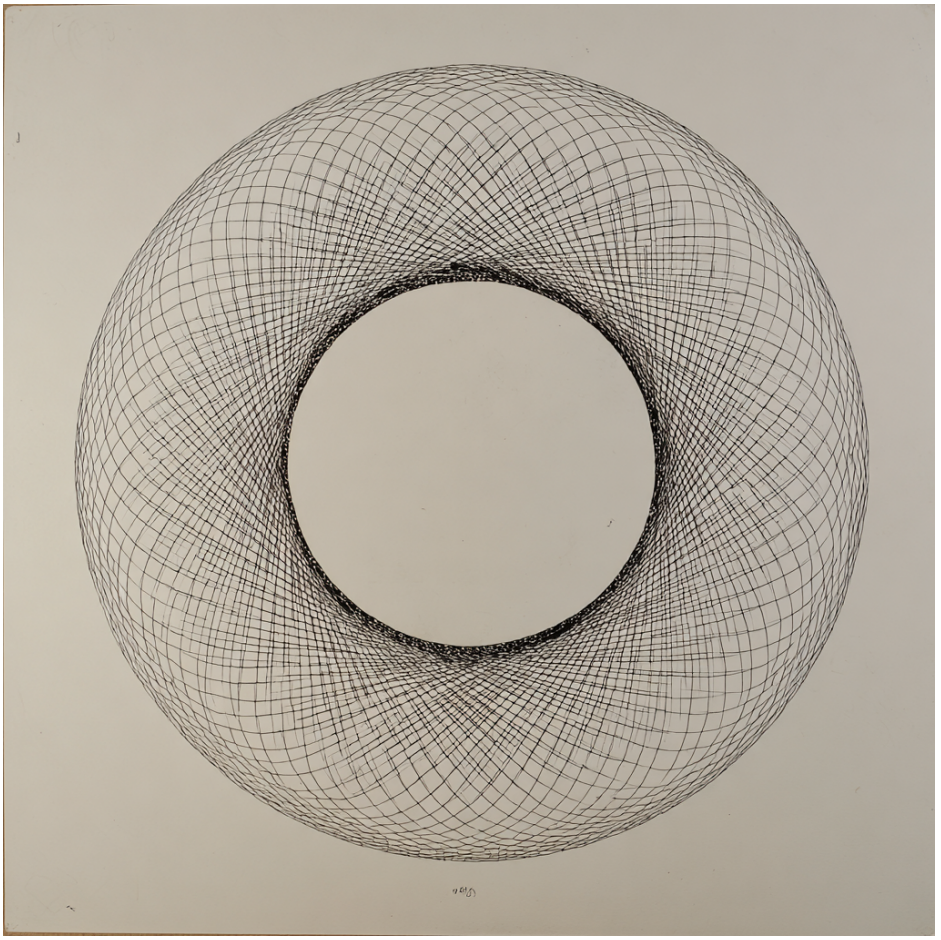
Where drone creates depth through sustained single tones and spectral composition analyzes acoustic physics, Ligeti creates depth through mass. Micropolyphony is a crowd of voices so dense that no individual line is audible, only the collective behavior. The compositional surface becomes texture itself.

The lesson: texture is a primary compositional parameter, not a byproduct of other decisions.

GYÖRGY LIGETI

Hungarian composer who developed micropolyphony: dozens of independent voices moving at slightly different speeds, creating a texture that sounds like a single organism breathing, no individual line audible, only the mass. His cluster pieces for organ use sustained tone fields to activate the harmonic series of the room itself. His piano études apply extreme technical demands to produce results that sound inevitable and simple: enormous physical input, minimal perceptual surface.

- ► Atmosphères (1961) — the micropolyphony template; an orchestra as a single evolving cloud
- ► Lontano (1967) — slower-moving, immersive, a long sustained shift
- ► Volumina (1961–62) — organ clusters; the room as resonator
- ► Études pour piano (1985–2001) — algorithmic constraint producing organic texture; Book 1 first



On Noise, Texture, and the Electronic Body

The composers here use electronic processing and psychoacoustic phenomena to expand what counts as musical material into territory earlier traditions excluded: industrial noise, feedback, environmental sound, and the physical responses of the ear itself.

They share the conviction that the boundary between music and not-music is conventional rather than physical, and that the most interesting work happens at or beyond that boundary.

MARYANNE AMACHER

American composer who worked with psychoacoustic phenomena so specifically calibrated that the inner ear generates tones not present in the recording. These otoacoustic emissions are a physical response of the ear itself. She was composing sounds that only exist inside the listener's head.

- ► Sound Characters (Making the Third Ear) (1999) — otoacoustic emissions as composition

ALVIN CURRAN

American composer who blends field recordings, synthesizer, and voice in a way that refuses to distinguish between 'music' and 'environment.' Everything is material.

- ► Songs and Views from the Magnetic Garden (1975) — synth, voice, and the natural world merged

KAIJA SAARIAHO

Finnish composer who gradually transforms an orchestra into tape noise and back, the boundary between acoustic instrument and electronic effect dissolves completely.

- ► Verblendungen (1984) — orchestra becoming tape becoming orchestra

TOSHIMARU NAKAMURA

Japanese improviser who plays a mixing board with nothing connected to its inputs. The only source is feedback: outputs routed back to inputs, the board processing itself. He controls the character of the feedback by adjusting levels and routing. The instrument is the process, and the process is the instrument.

- ► No-Input Mixing Board (2000) — the defining document
- ► Egrets (2005) with Keith Rowe — extended silence and sparse events

On Rhythm as Pattern, Not Groove

Both composers here reject rhythm as something designed to be felt in the body as groove or pulse. For Nancarrow, rhythm is a mathematical relationship between simultaneous but irreconcilable tempos. For Eastman, it is pounding repetition that generates ecstatic intensity through accumulation rather than syncopation.

In both cases, rhythmic interest comes from structural tension rather than physical invitation.

CONLON NANCARROW

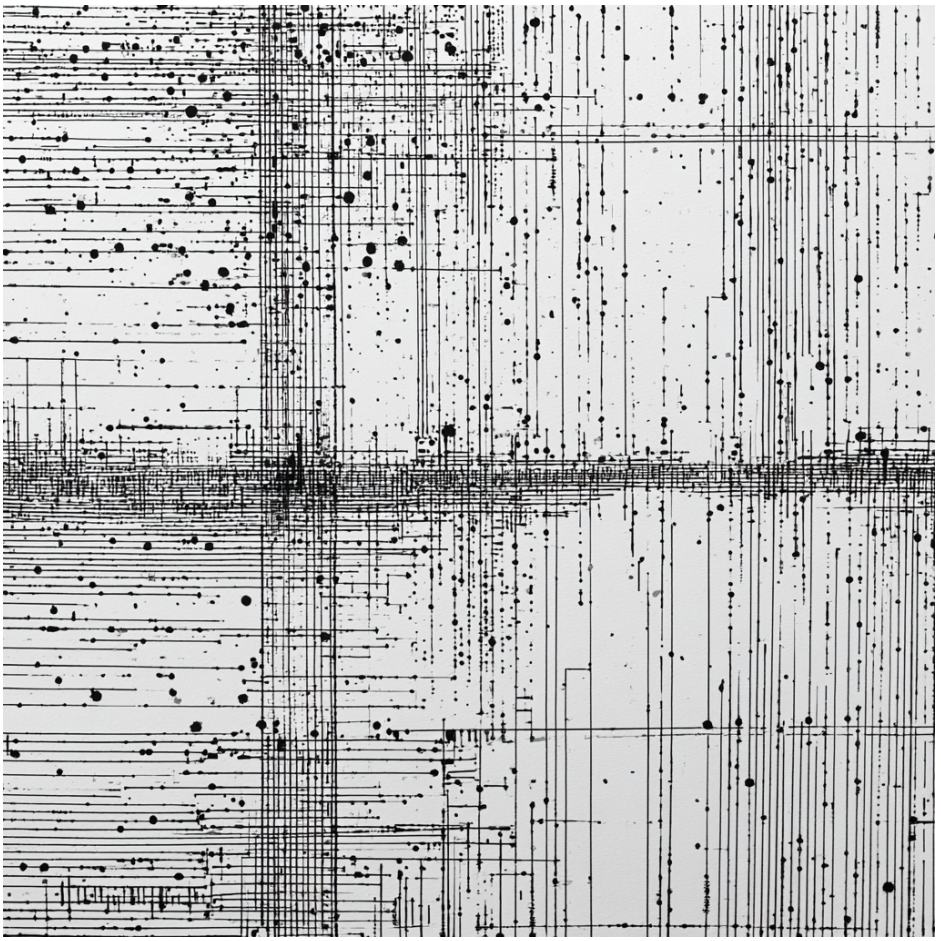
American composer who wrote for player piano because human performers couldn't execute what he heard. Tempos layered in irrational ratios, one voice at tempo 60, another at $60 \times \sqrt{2}$. The parts are not supposed to lock together. The rhythmic tension between irreconcilable tempos is the groove.

- ► Studies for Player Piano (1948–1992) — especially Studies #21 and #36

JULIUS EASTMAN

American composer whose four-piano minimalism has more in common with Big Black than Philip Glass. Demolishes the idea that minimalism has to be serene or academic.

- ► Evil Nigger (1979) — four pianos, relentless, fierce minimalism
- ► Crazy Nigger (1979) — even more aggressive, ecstatic repetition



On Silence and the Weight of Single Sounds

Feldman and Takemitsu share a painterly relationship to sound placement: each event carries its full weight as an individual occurrence, not as a unit in a pattern or a step in a progression. The space between sounds is not rest — it is where the sound's resonance completes itself and where the listener's attention does its deepest work.

These are the composers who demonstrate most clearly that silence is not the absence of music but an active compositional material.

MORTON FELDMAN

American composer and close associate of Cage who placed every sound with the care of a painter placing a mark on a canvas. The space between events does more emotional work than the events themselves.

- ► Rothko Chapel (1971) — 24 minutes; the perfect entry point
- ► For Philip Guston (1984) — four and a half hours of quiet, spacious sounds

TORU TAKEMITSU

Japanese composer who placed traditional Japanese instruments, biwa (a lute) and shakuhachi (an end-blown flute), against a Western orchestra. The two worlds coexist without resolving into each other. Not everything in a piece needs to belong to the same system.

- ► November Steps (1967) — contrasting traditions sharing the same space

On Wandelweiser and Extreme Reduction

The Wandelweiser collective represents the logical endpoint of the Feldman/Cage silence tradition: music in which extended silence is not one compositional element among others but the primary material, with sounds appearing rarely inside it. Where Feldman composes beautiful sounds and places them with care, Wandelweiser composers ask whether the beauty of the placement might be enough even when the sounds themselves barely arrive.

This is the most austere tradition in this guide and the most demanding of the listener.

JÜRG FREY

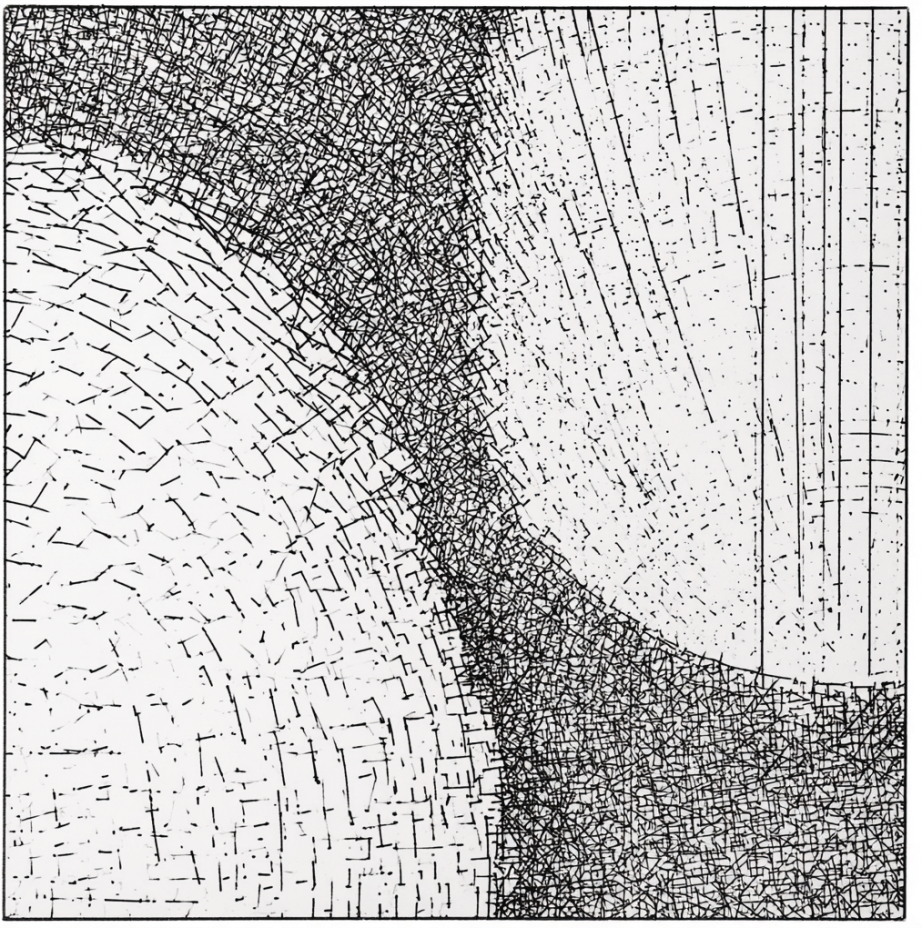
Swiss composer and member of the Wandelweiser composers' collective, a German/Swiss group committed to the most radical continuation of the Feldman/silence tradition currently active. Individual sounds separated by minutes of actual silence, not dramatic silence, not pregnant pause, just time, given the same compositional weight as the sounds themselves.

- ► Ephemeral Things (2008) — string quartet, long silences between sparse gestures
- ► Grasses (2019) — voice and instrument, extraordinarily sparse

ANTOINE BEUGER

Also Wandelweiser, approaching the question of whether sound needs to occur at all for music to be present. A deeply philosophical practice that asks you to consider whether listening itself is the composition rather than the sounds.

- ► calme étendue (john cage) (2002) — for flute(s), practically inaudible
- ► un lieu de tranquillité (1997) — flute alone, the model of Wandelweiser reduction



On Lowercase and Near-Silence

Lowercase emerged as a loose scene in the late 1990s around artists working in what Kim Cascone, one of its key theorists, called the aesthetics of failure: music made from digital artifacts, near-silent events, and sounds so small they require physical stillness to hear.

The term itself was coined by American composer Steve Roden, who built pieces from the sounds of paper, ventilation systems, and rooms. The labels 12k (founded by Taylor Deupree in 1997) and LINE (founded by Richard Chartier and Deupree in 2000) became the primary distribution points for the scene.

The relationship to Wandelweiser is real, both traditions treat near-silence as primary material, but the origins are different: Wandelweiser arrives from the classical tradition via Cage and Feldman, while lowercase arrives from electronic music and what happens when you treat glitch and artifact not as failures to be corrected but as the actual content.

The lowercase principle as a practice rule: if the listener has to turn up the volume and sit still to hear it, they are already inside the music.

TETSU INOUE

Japanese ambient and lowercase composer whose work spans two periods: early releases on Pete Namlook's FAX label produced long, slowly evolving electronic fields in the immersive ambient tradition, while his later work, Fragment Dots, Field Tracker, and his collaborations with Taylor Deupree from around 2000–2002, moved toward lowercase territory, operating near the threshold of audibility. World Receiver (1996) is his most important single document: field recordings from Japan, Thailand, Pakistan, Germany, and the US blended with synthesis so gradually that the boundary between recorded environment and composed sound is impossible to locate. The transition is not a crossfade: it is an argument about the relationship between the world and the studio. After

Inland in 2007 he disappeared from public view entirely, no releases or explanation, one of the few artists in this document whose silence since his last record feels as compositionally weighted as the music itself.

- World Receiver (1996) — field recordings and synthesis; the boundary between them invisible
- Slow and Low (1997) — lowercase tendencies fully developed
- Fragment Dots (2000) — near the threshold of audibility
- Inland (2007) — his last record; what he was moving toward

On Process and Generative Systems

The composers here don't write music, they design systems that generate it. Lucier designs a feedback loop and lets the room finish the composition. Spiegel encodes musical logic in software and hands it to the performer. Cardew draws a graphic score and lets interpreters realize it. Oliveros writes instructions for listening.

Each removes the composer from the moment of sound production and asks: if the conditions are designed correctly, will the music find itself? The answer, in each case, is yes.

ALVIN LUCIER

American composer who records himself speaking a text in a room, plays the recording back through speakers, records that playback, plays it back again, and repeats. After enough cycles, the room's resonant frequencies overwhelm the words entirely: speech becomes pure tone, shaped by the acoustic properties of the space. He designed a process, pressed record, and let physics finish the composition. The clearest possible demonstration that the room is an instrument and that repetition is transformation.

- ► I Am Sitting in a Room (1969) — the canonical process piece
- ► Music on a Long Thin Wire (1977) — a wire vibrated by an oscillator; beating patterns emerge from physical law

LAURIE SPIEGEL

New York composer and programmer who wrote MUSIC MOUSE, an intelligent instrument that implements musical logic in software. You move the mouse; MUSIC MOUSE generates harmonically consistent results based on encoded rules about voice leading, tempo, and harmonic space. The system is an argument that musical intuition can be formalized and handed back to the performer. MUSIC MOUSE was originally written in 1985 for the Macintosh; recently made available again for contemporary machines.

- ► The Expanding Universe (1980) — algorithmic synthesis with formal rigor
- ► Unseen Worlds (1994) — further development
- ► MUSIC MOUSE (1985/2024) — the software itself

CORNELIUS CARDEW

British composer who created a 193-page graphic score that looks like architectural drawings and engineering diagrams. Performers interpret visual forms as sound, with no instructions beyond the score itself. The ultimate 'design a process and get out of its way' piece, and a different answer than Cage gave to the same question.

- ► Treatise (1963–67) — graphic score, interpreted differently every time

PAULINE OLIVEROS

American composer whose Sonic Meditations are text scores instructing you how to listen and respond. 'Take a walk at night. Walk so silently that the bottoms of your feet become ears.' Literally koans for practice. Her Deep Listening discipline grew from a recording made in a 2-million-gallon underground cistern with 45 seconds of natural reverb.

- ► Sonic Meditations (1971) — text scores for deep listening practice
- ► Deep Listening (1989) — recorded in the cistern; the reverb is the instrument

On Ecological and Cybernetic Systems

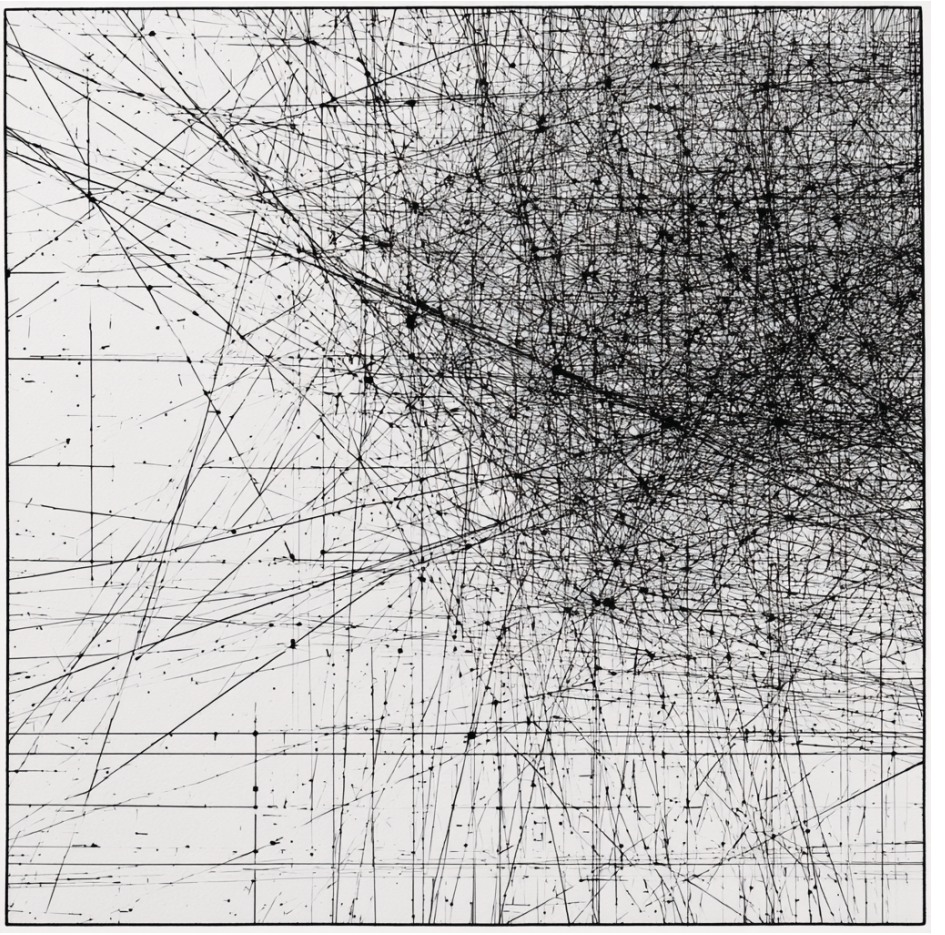
Di Scipio occupies a position between process music and systems theory. His feedback ecosystems don't simply run automatically, they respond to the specific acoustic conditions of each performance space, incorporating the room's character as an active compositional variable. Where Lucier's process follows a predetermined schedule, Di Scipio's system remains in continuous dialogue with its environment.

The room is not an instrument the composer plays. It is a collaborator with its own intentions.

AGOSTINO DI SCIPIO

Italian composer who coined the term 'audible ecosystem', pieces where the microphone picks up what the speakers project into the room, processes it, and re-projects it, creating a closed feedback loop in which the acoustic properties of the space are an active compositional element. The score specifies the system architecture; the room and its physics complete the composition. Algorithmic composition where part of the algorithm runs in physics.

- ► Audible Ecosystems (various) — the core body of work
- ► Background Noise Study No. 2 (2003) — a particularly clear example



On Material as Instrument

The largest section in this guide spans from the founding of the industrial music genre through contemporary found-sound composition.

What unites figures as apparently different as Throbbing Gristle and Annea Lockwood is the conviction that the boundary between musical instrument and physical object is conventional rather than inherent, that a door hinge, a steel pipe, a burning piano, and a river are as legitimate as any violin or synthesizer.

The lesson isn't transgression. It's that the world is full of instruments that no one has yet learned to play.

THROBBING GRISTLE

The British group who named the industrial genre, by accident, and before it existed as a genre. Genesis P-Orridge, Cosey Fanni Tutti, Chris Carter, and Peter Christopherson came out of COUM Transmissions, a performance art collective whose Prostitution exhibition at the ICA in 1976 was denounced in Parliament. They founded Industrial Records as a record label run as an art project: sending unsolicited packages to strangers, using catalog numbers as conceptual artworks, treating distribution as performance. The name 'industrial' came from the label name and spread to describe the music and then an entire genre. No guitar riff, no verse-chorus, no intended groove, pure research into what sound can do without the conventions of music.

- The Second Annual Report (1977) — the founding document
- 20 Jazz Funk Greats (1979) — most accessible and most unsettling simultaneously
- Heathen Earth (1980) — live, entirely improvised, the process fully developed

EINSTÜRZENDE NEUBAUTEN

Berlin group who built instruments from scrap metal, power tools, and construction materials found in the ruins of post-war West Berlin, finding melody, rhythm, and tenderness inside materials that weren't designed to produce any of those things. Their arc from pure destruction to delicate beauty, still using the same materials, is itself the deepest lesson.

- ► Kollaps (1981) — the raw beginning; jackhammers and steel as instruments
- ► Halber Mensch (1985) — structure emerging from chaos
- ► Silence Is Sexy (2000) — tenderness and space from the same hands that destroyed stages
- ► Perpetuum Mobile (2004) — scrap metal as chamber music; the full maturation

Z'EV

American percussionist who built instruments from stainless steel, titanium, and PVC before anyone else was working this way. More meditative and sustained than Neubauten. He didn't consider it music — he called it 'orchestrations of highly rhythmic acoustic phenomena.'

- ► Solo Percussion, BOX (early recordings) — pure found-metal percussion

TEST DEPT

British group who scavenged scrap metal from derelict South London factories to build percussion instruments. Deeply political; they performed alongside striking Welsh miners' choirs during the 1984 miners' strike. Their mantra: 'Use your environment.'

- ► Ecstasy Under Duress (1984) — the essential starting point
- ► Beating the Retreat (1984) — live percussion at crushing intensity

DIE KRUPPS

A symphony composed entirely for metal percussion, predating most of what we now call industrial by naming the industrial process itself as the subject.

- ► (1981) — steelworks symphony, metal as orchestra

THE YOUNG GODS

Swiss group who sampled industrial sounds and orchestral recordings, then triggered them from keyboards as if they were conventional instruments. They anticipated what you can now do with Ableton and a contact microphone.

- ► TV Sky (1992) — massive sampled textures, crushing rhythms

HELMUT LACHENMANN

German composer who coined 'musique concrète instrumentale', the idea that conventional acoustic instruments, played with extended techniques, could produce sounds previously only available on tape. He systematically catalogued every sound a conventional instrument could make beyond its intended use and built an entire compositional language from the results. The instrument and the found object become the same category.

- ► Gran Torso (1971) — string quartet; extended techniques as the only language
- ► Air (1969) — orchestra producing near-inaudible sounds at the edge of capability
- ► Mouvement (- vor der Erstarrung) (1984) — ensemble at the physical limit

NICOLAS COLLINS

American composer and circuit builder with over 40 years developing practice around homemade electronics and feedback. His trombone work uses the instrument to physically control feedback circuits, breath pressure and embouchure affecting electronic behavior. He wrote *Handmade Electronic Music*: every circuit you build is a compositional decision.

- ► Pea Soup (1974) — trombone feedback; the feedback IS the

composition

- ► It Was a Dark and Stormy Night — developed trombone-controlled feedback system
- ► Handmade Electronic Music (book, 2006/2020) — belongs on the same shelf as this guide

PIERRE HENRY

Pierre Schaeffer invented musique concrète, composition using recorded everyday sounds as raw material, in Paris in the late 1940s. Henry was his collaborator and took the method somewhere Schaeffer never quite went. Variations pour une porte et un soupir is an hour-long composition built from a single door hinge, its squeak, its creak, its resonance through a range of registers. Nothing else. The door is the orchestra.

- ► Variations pour une porte et un soupir (1963) — one hinge, one hour; the essential document
- ► Psyché Rock (1967, with Michel Colombier) — musique concrète approaching pop
- ► Le Voyage (1962) — the Tibetan Book of the Dead as electronic composition

LUC FERRARI

French composer who coined 'anecdotal music', field recordings placed with compositional intentionality. Prèsque Rien No. 1 records a fishing village in Yugoslavia waking up at dawn over 21 minutes with no intervention except microphone placement. The arc of activity, the relationships between foreground and background, all compositional, none of it composed in the conventional sense.

- ► Prèsque Rien No. 1 (1970) — a village waking up as composition
- ► Hétérozygote (1964) — electronic sounds and field recordings in conversation

CHRIS WATSON

British composer and former member of Cabaret Voltaire, the Sheffield post-punk and industrial group named after the Zurich Dada café. Watson left to become one of the

great field recording artists, placing sounds in relationship in time the way a composer would. Weather Report captures a storm system from distant approach to full force to dissipation: the arc is compositional.

- ► Outside the Circle of Fire (1998) — the essential starting point
- ► Weather Report (2003) — storm as composition
- ► El Tren Fantasma (2011) — a Mexican railway journey as composed sound narrative

ANNEA LOCKWOOD

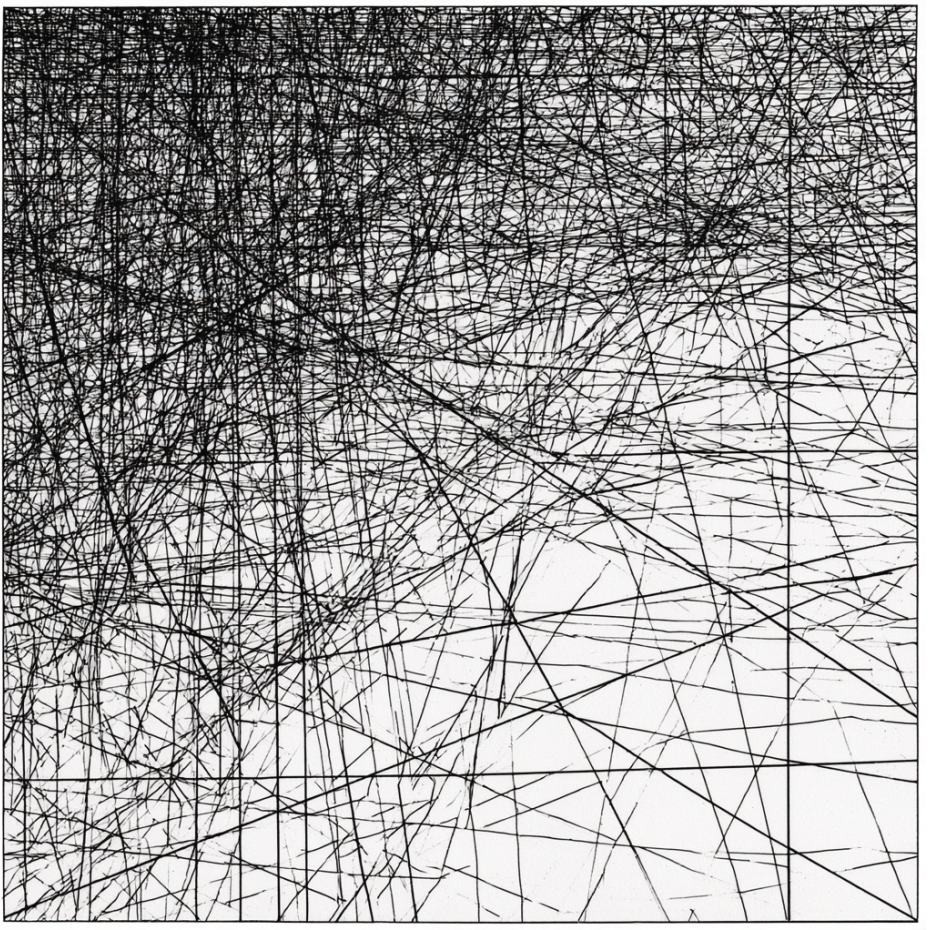
New Zealand-born composer who treated the piano as a physical object subject to environmental processes. She burned one in a field, submerged one in a river, embedded a third in a garden to be slowly colonized by plants. Later: hour-long sound maps of American rivers as spatial compositions.

- ► Piano Transplant series (1968–82) — Piano Burning, Piano Drowning, Piano Garden
- ► A Sound Map of the Hudson River (1982) — the river as score

MATMOS

American duo who apply a strict constraint to each album: a single source material, used exclusively. The lesson isn't the sounds but the discipline of the constraint, the same generative/prohibitive principle Radigue describes for synthesis, applied to source material. Whatever sounds they can't make from the designated material, they don't make.

- ► A Chance to Cut is a Chance to Cure (2001) — medical sounds only
- ► The Rose Has Teeth in the Mouth of a Beast (2006) — each track: one biography's sounds only
- ► Ultimate Care II (2016) — an entire album from a single washing machine



On Voice, Body, and Technology

Where the material section asks what counts as an instrument, this section asks what counts as a voice. Anderson processes speech until its emotional content becomes more concentrated, not less.

Ashley finds melody in the natural rhythms of spoken English. Walker treats a baritone as a physical object that produces sound rather than a vehicle for meaning. Koko runs text through probability systems until its century and its sound are separated.

The question throughout: what does the voice reveal when you stop protecting it?

LAURIE ANDERSON

American artist and composer who proved that storytelling is a compositional structure and that the voice processed through technology becomes more honest, not less human. A looped vocal syllable and a vocoder created one of the most intimate electronic pieces ever made. Her violin work, filtered through electronics, is a voice pretending to be an instrument pretending to be a voice.

- ► Big Science (1982) — the essential starting point; technology as intimacy
- ► Mister Heartbreak (1984) — deeper electronic processing
- ► Strange Angels (1989) — more conventional song structures, still unmistakably hers

ROBERT ASHLEY

American composer who made opera from spoken American English, not sung text but speech, with its natural rhythms and inflections treated as melodic material. Perfect Lives is a seven-episode TV opera; the narrator's voice is the primary instrument, its natural music, the way meaning changes pitch, the way pauses carry weight, is the compositional surface. Where Anderson processes voice into texture, Ashley leaves voice as voice and builds everything else around what it naturally does.

- ► Perfect Lives (1983) — seven-episode TV opera; start with any episode
- ► Automatic Writing (1979) — involuntary speech as composition, more abstract

SCOTT WALKER

Walker spent his first decade as a 1960s pop idol and the next four decades systematically dismantling everything that made him one. His late records use percussion made from striking hanging pork, orchestral passages invoking Benjamin Britten, one of the major British classical composers of the 20th century, and Ligeti simultaneously, and sudden industrial noise as punctuation. The voice is treated as pure instrument; the words as sound before they are meaning. The transformation from pop idol to radical experimental practice is itself the lesson: the entire distance is travelable without changing your instrument, only your relationship to convention.

- ► Tilt (1995) — the transformation begins; the first fully strange record
- ► The Drift (2006) — industrial sound, meat percussion, Brechtian text
- ► Bish Bosch (2012) — the full maturation

GROUP A

Japanese performance art and live electronics duo based between Berlin and Tokyo. Physical presence, movement, and breath are all compositional elements. The electronic sounds and the performance are a single indivisible thing.

- ► anOther — dark, unsettling spaces from abstract sound sources and processed vocals
- ► Circulation — their foundational statement

ADULT.

Detroit duo: one synth line, one drum machine pattern, one voice — and nothing else. Urgency doesn't require density. The sparseness of punk can be more confrontational than its volume.

- ► Resuscitation (2001) — the template, raw and relentless
- ► The Way Things Fall (2013) — matured but still stripped bare

PAN SONIC

Finnish duo (Mika Vainio and Ilpo Väisänen) who reduced electronic music to sine tones, square waves, pulses, and silence. No reverb, no processing, no ambient warmth. The space between sounds is not atmospheric, it is precise. Elimination is not deprivation; it is focus.

- ► Vakio (1995) — the foundational statement
- ► Kulma (1997) — harder, more aggressively reduced
- ► Kesto (2004) — four hours; their most systematic work

MIKADO KOKO

Japanese composer, producer, and poet working at the intersection of electronic music, spoken word, and Japanese literary tradition, citing Delia Derbyshire, the BBC Radiophonic Workshop composer who realized the original Doctor Who theme by cutting and splicing individual sine tones on tape by hand, as a foundational influence. The process she used for Songs To Our Other Selves is worth understanding directly: working from a stereo WAV file, she ran it through SECTOR, an iOS slicer built around Markov Chain connections, generating random loops, editing the output, and repeating approximately twenty times per track; the result contains elements of musique concrète, hip-hop cut-and-mix, and generative glitch simultaneously. Her label Ogive is built on the explicit premise that AI and generative tools are continuous with 20th-century electronic composition, the same argument this document's frontpiece makes about its images.

- The Japanese Rimbaud (2020) — IDM-adjacent electronics meeting Japanese modernist poetry
- Maza Gusu (2021) — traditional Japanese nursery rhymes through glitch and electronics
- Songs To Our Other Selves (2022) — the Markov Chain process; reworking Penny Rimbaud
- Untold Melodies (2023) — generative piano on her Ogive label

On Economy and the Minimal Rock Tradition

Wire and Hollis occupy the place where the reductive principles described elsewhere in this guide make contact with popular music structure, and demonstrate that those principles are not the exclusive property of academic or avant-garde practice. Pink Flag applies editorial ruthlessness to rock song form. Spirit of Eden applies Feldman's silence logic to the rock album. Both arrived at their methods independently, from inside popular music itself. They are the most useful entries for readers who need a bridge.

WIRE

British group whose Pink Flag applied ruthless editorial logic to rock structure, not punk's aggression but punk's permission to remove, taken further than anyone else. 21 songs in 36 minutes; some under 30 seconds. A chord appears for one measure and disappears because it said what it needed to say. Their subsequent albums moved toward tape manipulation and electronic texture while retaining the same economy of means.

- ► Pink Flag (1977) — 21 songs as an argument about necessity
- ► Chairs Missing (1978) — electronic texture added while economy held
- ► 154 (1979) — post-punk atmosphere, the economy intact

MARK HOLLIS / TALK TALK

Spirit of Eden and Laughing Stock dissolved rock song structure into something closer to late Feldman than anything on a rock label had any right to be. Built by recording hours of quiet improvisation in near-darkness, sometimes 20 musicians at low volume, then editing down to minutes. Most of what was recorded was discarded. Individual sounds carry the full emotional weight most records distribute across arrangements. Hollis's production insight: the space between sounds is louder than the sounds themselves. For many people these are the

first records they hear working this way, the most useful gateway for listeners arriving from rock.

- Spirit of Eden (1988) — the essential record; start here
- Laughing Stock (1991) — further reduction; the song form almost fully dissolved
- Mark Hollis (1998, solo) — the logic taken to its quietest conclusion



On Contemporary Practice

The composers here are working now, which means following them is a different kind of engagement than studying a historical body of work: they are still making decisions, still developing.

Barbieri extends Riley's phase logic through modular synthesis. Malone brings Radigue's slow-change aesthetics to the physical weight of a pipe organ. Davachi dissolves the boundary between electronic drone and early music. Each represents a current position in the tradition this document traces, evidence that the lineage is not historical but live.

CATERINA BARBIERI

Italian composer using modular synthesis and sequencer-based composition in the direct lineage of Riley and Reich. Her patterns phase and evolve in ways that recall In C but are generated by the physics of analog clock signals. She is working right now.

- ► Patterns of Consciousness (2017) — the essential document
- ► Ecstatic Computation (2019) — more developed, slight industrial edge

KALI MALONE

American composer working with pipe organ and just intonation, tuning derived from the harmonic series rather than equal temperament. A just-intoned organ chord resonates differently: the overtones align in ways that create shimmer, beating, and physical presence. Slow harmonic movement, very close to Radigue territory but with the gravity of a pipe organ.

- ► The Sacrificial Code (2019) — the essential document
- ► All Life Long (2022) — with sustained brass ensemble

SARAH DAVACHI

Canadian composer whose work with analog synthesizers and small chamber groups dissolves the boundary between electronic drone and acoustic performance. In the direct Radigue lineage, also draws on medieval polyphony. Her pieces create the sense of sound existing in time the way light exists in a room: slowly changing, never fully still.

- ► Pale Bloom (2019) — the accessible entry point
- ► Antiphonals (2020) — voice and electronics, the chamber dimension

QUICK REFERENCE: BY PROBLEM

Use this when you know something is wrong but not yet what.

Track feels too busy or crowded

- Koans: K7, K6, K9
- Methods: M1, M2
- Listen: Wire (Pink Flag), Pärt (Spiegel im Spiegel), Feldman (Rothko Chapel)

Can't stop adding things

- Koans: K6, K10, K25
- Methods: M6, M2
- Listen: Young (Composition 1960 #7), Niblock, Satie (Gymnopédies)

Stuck harmonically

- Koans: K39–K44
- Methods: M8, M9, M11
- Listen: Grisey (Partiels), Davis (Kind of Blue), Radigue (Adnos I)

Everything sounds the same

- Koans: K14, K18
- Methods: M12, M13
- Listen: Basinski (DL I), Nancarrow (Study #21), Xenakis (Metastasis)

Source material feels conventional

- Koans: K31, K32
- Methods: M12, M13, M14, M16
- Listen: Henry (Variations pour une porte), Neubauten (Kollaps), Matmos, Koko

Loops feel static, not alive

- Koans: K12, K13, K20
- Methods: M3
- Listen: Riley (In C), Reich (Come Out), Barbieri (Patterns of Consciousness)

Track won't resolve but feels boring

- Koans: K43, K42
- Methods: M10
- Listen: Radigue (Adnos), Malone (Sacrificial Code), Davis (In a Silent Way)

Voice or lyrics feel wrong or forced

- Koans: K45–K48
- Methods: M15
- Listen: Anderson (Big Science), Ashley (Perfect Lives), Walker (The Drift), Koko

Genuinely stuck, need a reset

- Koans: K51
- Methods: M4, M5
- Listen: Oliveros (Sonic Meditations) — then use the Session Oracle

Want to work algorithmically

- Koans: K18, K19, K22
- Methods: M3, M16
- Listen: Di Scipio, Xenakis, Barbieri, Spiegel (Music Mouse), Koko

Need to give existing material new life

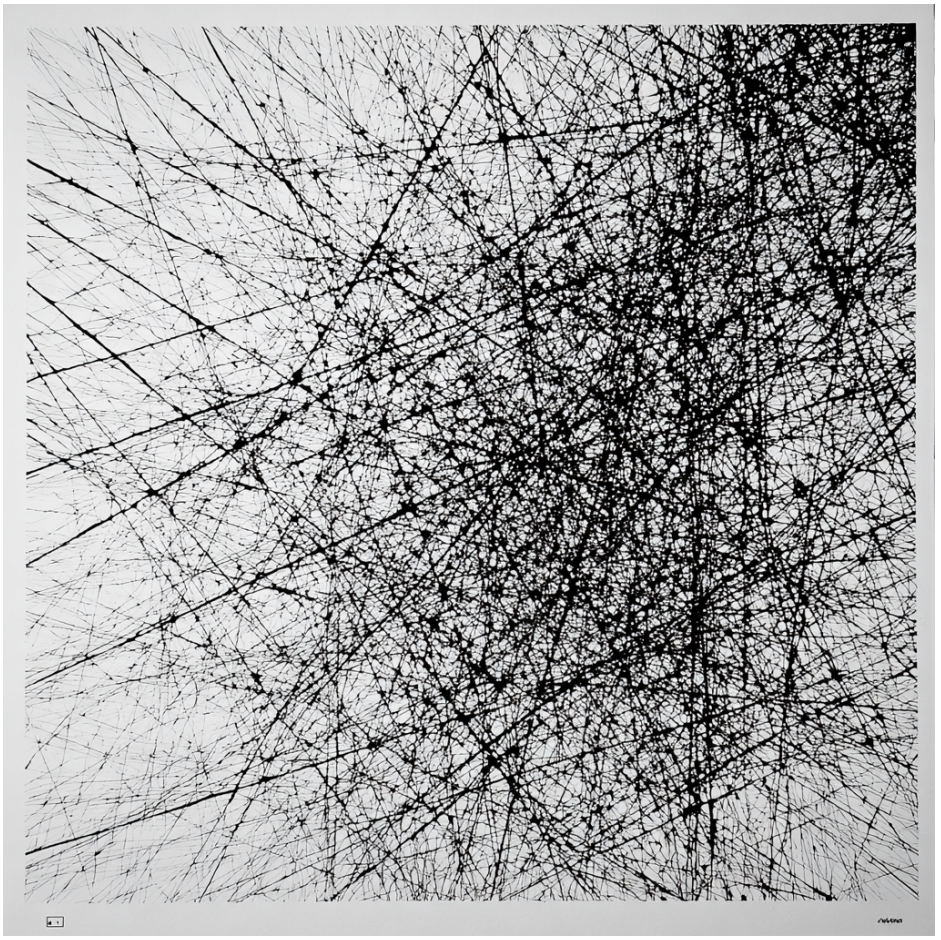
- Koans: K13, K18
- Methods: M16
- Listen: Basinski (DL I), Koko (Songs To Our Other Selves), Matmos

Embarrassed about your tools or approach

- Koans: K52
- Methods: M6
- Listen: Perich (1-Bit Symphony), Spiegel (Music Mouse), Koko (Ogive label)

Need an accessible entry into this territory

- Listen: Davis (Kind of Blue), Pärt (Spiegel), Hollis (Spirit of Eden), Eno (Airports)



A LISTENING PATH

From process through drone through silence through material through voice

1. Erik Satie — Gymnopédies (1888)
2. John Cage — 4'33" (1952)
3. Steve Reich — Come Out (1966)
4. Terry Riley — A Rainbow in Curved Air (1969)
5. Miles Davis — Kind of Blue (1959)
6. Arvo Pärt — Spiegel im Spiegel (1978)
7. Brian Eno — Ambient 1: Music for Airports (1978)
8. Tristan Perich — 1-Bit Symphony (2010)
9. Iannis Xenakis — Metastasis (1954)
10. Tony Conrad — Four Violins (1964)
11. Glenn Branca — The Ascension (1981)
12. Éliane Radigue — Adnos I (1974)
13. William Basinski — Disintegration Loops I (2001)
14. Gérard Grisey — Partiels (1975)
15. Harry Partch — Barstow (1941)
16. Morton Feldman — Rothko Chapel (1971)
17. Alvin Lucier — I Am Sitting in a Room (1969)
18. Julius Eastman — Evil Nigger (1979)
19. Charlemagne Palestine — Strumming Music (1974)
20. György Ligeti — Atmosphères (1961)
21. Maryanne Amacher — Sound Characters (1999)
22. Conlon Nancarrow — Study #21 for Player Piano
23. Jürg Frey — Ephemeral Things (2008)
24. Tetsu Inoue — World Receiver (1996)
25. Agostino Di Scipio — Audible Ecosystems
26. Throbbing Gristle — The Second Annual Report (1977)
27. Einstürzende Neubauten — Silence Is Sexy (2000)
28. Z'EV — Solo Percussion, BOX
29. Pierre Henry — Variations pour une porte et un soupir (1963)

30. Chris Watson — Outside the Circle of Fire (1998)
31. Annea Lockwood — A Sound Map of the Hudson River (1982)
32. Pan Sonic — Vakio (1995)
33. Luc Ferrari — Prèsque Rien No. 1 (1970)
34. Mark Hollis / Talk Talk — Spirit of Eden (1988)
35. Scott Walker — The Drift (2006)
36. Caterina Barbieri — Patterns of Consciousness (2017)
37. Kali Malone — The Sacrificial Code (2019)
38. Laurie Anderson — Big Science (1982)
39. Robert Ashley — Perfect Lives (1983)
40. Mikado Koko — Songs To Our Other Selves (2022)
41. Pauline Oliveros — Sonic Meditations (1971)

LISTENING BY WHAT YOU NEED

For subtracting

Satie (Gymnopédies), Pärt (Spiegel im Spiegel), Feldman (Rothko Chapel), Wire (Pink Flag), Adult. (Resuscitation), Frey (Ephemeral Things)

For rethinking rhythm

Nancarrow (Study #21), Eastman (Evil Nigger), Xenakis (Metastasis), Pan Sonic (Vakio), Niblock

For harmony that won't resolve

Davis (Kind of Blue), Grisey (Partiels), Scelsi (Quattro Pezzi), Conrad (Four Violins), Malone (The Sacrificial Code)

For rethinking your source material

Henry (Variations pour une porte), Neubauten (Kollaps), Watson (Outside the Circle of Fire), Collins (Pea Soup), Matmos (Ultimate Care II)

For working generatively with existing material

Koko (Songs To Our Other Selves), Basinski (Disintegration Loops I), Matmos (Ultimate Care II) — then try M16

For process and systems thinking

Lucier (I Am Sitting in a Room), Di Scipio (Audible Ecosystems), Reich (Come Out), Spiegel (The Expanding Universe)

For near-silence and lowercase

Inoue (World Receiver), Feldman (Rothko Chapel), Frey (Ephemeral Things), Beuger (calme étendue)

For voice as material

Anderson (Big Science), Ashley (Perfect Lives), Walker (The Drift), Koko (The Japanese Rimbaud), Group A (Circulation)

For living practitioners in this territory

Barbieri (Patterns of Consciousness), Malone (The Sacrificial Code), Davachi (Pale Bloom), Koko (Untold Melodies)

For drone and deep listening

Young (The Well-Tuned Piano — even 20 minutes), Niblock, Basinski (Disintegration Loops I), Branca (The Ascension)

For a complete beginner to this territory

Davis (Kind of Blue) → Pärt (Spiegel im Spiegel) → Hollis (Spirit of Eden) → Eno (Music for Airports) → Neubauten (Silence Is Sexy)

READING LIST

John Cage - Silence (1961)

The foundational text. Not a how-to but a reorientation of what music is. Start with 'Experimental Music' and '4' 33"'.

Michael Nyman - Experimental Music: Cage and Beyond (1974)

The best single-volume historical overview of this tradition. Systematic and specific.

Christoph Cox & Daniel Warner (eds.) - Audio Culture: Readings in Modern Music (2004)

The best single-volume anthology. Cage, Russolo, Schaeffer, Eno, Attali, Toop, and dozens more. Buy this one.

David Toop - Ocean of Sound (1995)

Traces the ambient, electronic, and field recording lineage from impressionism to the present. Essayistic and ranging.

David Toop - Haunted Weather: Music, Silence and Memory (2004)

Focused on improvisation, electronics, and the relationship between listening and making.

Pauline Oliveros - Deep Listening: A Composer's Sound Practice (2005)

The practice made explicit. Short, direct, and immediately applicable.

Nicolas Collins - Handmade Electronic Music: The Art of Hardware Hacking (2006/2020)

Manual and manifesto. For anyone who has ever built a circuit or wants to. Every build is a compositional decision.

Jacques Attali - Noise: The Political Economy of Music (1977)

Theoretical but accessible. Argues that musical change predicts social change.

R. Murray Schafer - The Tuning of the World (1977)

Invented soundscape theory. Argues that the acoustic environment is a composition and we are responsible for what we are making.

Alex Ross - The Rest Is Noise (2007)

The most accessible account of 20th century art music. Entry point for the classical/avant-garde lineage if this guide's composer sections feel unfamiliar.

Tim Rutherford-Johnson - Music After the Fall (2017)

Covers contemporary music since 1989 with specificity and range. The most useful account of where the tradition is right now.

Curtis Roads - Microsound (2001)

Technical but foundational for granular synthesis and algorithmic approaches. The theory behind the practice for anyone working with Sonic Pi, Max, or similar tools.

GLOSSARY

ACOUSMATIC

Music heard without seeing its source, typically via loudspeaker performance of fixed media. The listener has no visual cue to the origin of sounds. Associated with the French musique concrète tradition.

COMBINATION TONES

Additional tones generated by the physics of two frequencies sounding simultaneously, their sum and difference frequencies become audible as a third sound neither player is producing. Central to Conrad's and Palestine's work, and to the drone tradition generally.

DRONE

A sustained tone held throughout or for extended periods, creating a fixed reference point against which other sounds move. The foundational unit in Young, Conrad, Radigue, Niblock, and many others.

EQUAL TEMPERAMENT

The standard Western tuning system in use since the 18th century, dividing the octave into 12 equal semitones. Convenient, it allows instruments to play in any key without retuning, but acoustically impure: none of its intervals except the octave are exact. Many composers in this guide work against it or outside it entirely.

JUST INTONATION

Tuning derived from the natural harmonic series rather than equal temperament (the standard Western tuning system, which divides the octave into 12 equal semitones). Just intonation produces pure, beatless intervals that sound richer and more resonant than their equal-tempered equivalents. Used by Young, Conrad, Partch, Malone, and Tenney.

LOWERCASE

A late-1990s electronic music tendency associated with Steve Roden, Richard Chartier, Taylor Deupree, and the 12k and LINE labels. Music made from near-inaudible sounds, digital artifacts, and events so small the listener must physically still themselves to hear it. The act of listening becomes compositional.

MARKOV CHAIN

A mathematical system that generates sequences where each event depends only on the immediately preceding state, not the full history. Produces results that are locally coherent but globally unpredictable, structured enough to feel musical, open enough to surprise. Used in algorithmic composition tools including Sonic Pi, and the compositional engine behind Mikado Koko's Songs To Our Other Selves process.

MICROPOLYPHONY

Ligeti's term for dense independent voices moving at slightly different speeds, creating a perceived mass rather than individual lines. The forest rather than the trees.

MODAL

Music organized around a single scale or mode rather than functional chord progressions. In tonal music, chords pull toward each other, the dominant chord demands resolution to the tonic. Modal music eliminates this demand: no leading tone, no obligatory resolution. The basis of Davis's Kind of Blue and much of the harmonic practice described in this guide.

MUSIQUE CONCRÈTE

Composed music using recorded environmental and everyday sounds as primary material, developed by Pierre Schaeffer in Paris in the late 1940s. The root tradition for Henry, Ferrari, Watson, and the found-sound methods in this guide.

OTOACOUSTIC EMISSIONS

Sounds generated within the inner ear in response to external stimuli, a physical byproduct of the ear's own mechanical response. Amacher composed specifically to trigger these, producing sounds that only exist inside the listener's head.

PHASE

Two identical patterns played at slightly different tempos, creating gradual rhythmic drift and evolving combinations. Reich's foundational discovery; now fundamental to loop-based composition.

PROCESS MUSIC

Composition based on a defined rule or procedure that runs autonomously once started. The composer designs the system; the system generates the music. Lucier, Reich, Di Scipio.

SPECTRAL COMPOSITION

Compositional approach using the acoustic properties of complex tones — overtone series, decay rates, spectral content, as raw material. Grisey's foundational method: the physics of sound as the score.

STOCHASTIC

Governed by probability distributions rather than deterministic rules. In Xenakis, compositional events are determined statistically, the composer designs the distribution, not the individual notes.

TINTINNABULI

Pärt's compositional method: one voice moves melodically, another arpeggiate the tonic triad. Two voices, one rule, complete interdependence. From the Latin for 'little bells.'

WANDELWEISER

A German/Swiss composers' collective (Frey, Beuger, and others) committed to extreme reduction, duration, and silence as compositional material. The most radical continuation of the Feldman tradition currently active.

The narrower the means, the deeper you're forced to listen.