

JAMES TENNEY (1934–2006)

HARMONIUM

Scordatura Ensemble

80803-2

1 *Harmonium #1* (1976) 10:25

for variable ensemble

Alfrun Schmid, voice
Elisabeth Smalt, viola
Bob Gilmore, keyboard

2 *For 12 Strings (rising)* (1971) 8:30

Janneke van Prooijen, Suzanne Groot,
Carter Williams, Román Santos, violins;
Elisabeth Smalt, Robert Meulendijk,
Ig Henneman, Hans Rijkman, violas;
Michiel Weidner, Anne Magda de
Geus, cellos; Rozemarie Heggen,
Cody Takács, double basses;
Alfrun Schmid, conductor

***Two Koans and a Canon* (1982) 17:27**

for viola and tape delay

3 I. First Koan (a gentler Beast) 4:24

4 II. Second Koan 9:55

5 III. [Canon] 3:09

Elisabeth Smalt, viola

6 *Voice(s)* (1984) 24:11

for variable instrumental ensemble,
voice(s), and multiple tape delay system

Alfrun Schmid, voice
Elisabeth Smalt, viola
Bob Gilmore, keyboard
Sarah Jeffery, recorder
Carlos Gálvez-Taroncher, clarinet
James Fulkerson, trombone
Scott McLaughlin, cello

7 *Blues for Annie* (1975) 3:25

a transcription for viola of "No More
Good Water" as sung by Jaybird Coleman
Elisabeth Smalt, viola

TT: 64:20

james tenney
harmonium
scordatura ensemble



ASKED WHETHER HE WOULD DESCRIBE HIS MUSIC AS “Sound for the sake of sound,” James Tenney replied, “It’s sound for the sake of perceptual insight—some kind of perceptual revelation.”¹ This release aptly demonstrates Tenney’s deep exploratory fascination with the nature and potentialities of aural perception. His attraction to these topics was simultaneously intellectual and sensuous, and its musical products at once invite both sustained reflection and the most immediate of corporeal responses.

Beginning around 1970, Tenney’s interests turned specifically to the perception of *harmony*, a topic that would consume much of his attention throughout the next three decades. His concept of “harmony,” however, did not coincide with received harmonic practices or even with extensions thereof, but with more basic questions of how pitch combinations are apprehended by the ear. Apart from being separated by a greater or lesser interval in pitch, and other sonic factors being equal, pitches in pairs can also be characterized as exhibiting greater or lesser harmonic relatedness, or as blending more or less well. Such qualities are often denoted using the rather coarse terms “consonance” and “dissonance.” For Tenney, these and other perceived aspects of pitch combinations would become foci of intense musical and theoretical exploration.

Certain aspects of harmonic kinship are sharply exemplified in the *harmonic series*, an acoustical structure common in nature but also explicitly invoked in three of the pieces heard here: *Harmonium #1*, *Two Koans* and *a Canon* Pt. III, and *Voice(s)*.

¹ Tenney, James. (1978). Interview with Gayle Young. *Only Paper Today*. 5(5) (June 1978): 16.

Listeners typically apprehend an individual instrumental or vocal tone as an indivisible unit, with relationships between such units constituting the material of music. Close listening, however, reveals that usually musical tones are not in fact unitary but composite. Above the pitch nominally associated with a given tone (sometimes called its *fundamental*) other faint pitches called higher *harmonics* may be audible. One way to highlight their presence in your own vocal tone is to sing a single low pitch while very slowly opening your mouth wider and wider in small discrete steps: higher harmonics will be successively added to the tone, becoming audible as they enter. (If you have never done this, go ahead and try it! Then you might go online to hear the virtuosic heights to which Tuvan *khoomei* singers have developed this technique.) Multiple harmonics are present all the time in spoken vowels, but usually we do not hear them. Instead we typically hear only the fundamental pitch associated with the lowest harmonic because—as already noted—all of these other *acoustical* components tend to fuse into a single *perceptual* unit with that unique pitch. This tendency to fuse is in part a consequence of the particular *pattern of spacing* between the harmonic pitches. The term “harmonic series” refers to this particular intervallic pattern, which is present in the pitched vocal and instrumental tones that comprise speech and most music. If it weren’t for the remarkable tendency of the harmonic series to perceptually fuse, speech and music would thus disintegrate into a welter of separate harmonics.

Tenney was less interested in the harmonic series as an acoustical structure than in the extraordinary features of auditory perception that it activates. He wrote that, “To understand the real relation between the harmonic series and musical perception we must ask the following question: Why is it that a compound tone consisting of many harmonic partials is normally and immediately perceived as a

single tone, rather than as a ‘chord?’”² The propensity of the series to perceptually fuse, however, is not its only notable feature. For instance, the relatively broad intervals between pitches appearing low in the series conspicuously correspond to ones that listeners typically judge to be relatively consonant, while more dissonant intervals can be found between higher harmonics. Thus, the series also provides a compendium of intervals organized in a perceptually meaningful way. A technical challenge posed by music invoking the harmonic series is that the intervals between pitches therein differ to greater or lesser extent from those that appear in traditional Western music. Accordingly, performers are often unaccustomed to producing such intervals accurately, and some of these intervals lack any serviceable approximation on instruments such as a conventionally tuned piano. Fortunately, contemporary performance practice appears to be evolving such that more and more performers are becoming accustomed to accurately realizing non-standard intonations, a movement of which the members of Scordatura Ensemble have been at the vanguard.

Tenney discerned within the harmonic series’ remarkable tendency to fuse the potential for a novel approach to the venerable compositional issues of unity vs. variety and simplicity vs. complexity. In particular, a number of his works feature pitch collections that progressively approach or diverge from the structure of the series, or that gradually move between its “harmonically complex” or “dissonant” upper reaches and its “harmonically simple” or “consonant” lower regions. A paradigmatic example is provided by *Harmonium #1* (1976), dedicated to composer Lou Harrison (1917–2003). As indicated by the score, performers independently

² Tenney, James. (1983). “John Cage and the Theory of Harmony.” In *From Scratch: Writings in Music Theory*. (2015). L. Polansky, L. Pratt, R. Wannamaker, and M. Winter, eds. Champaign, IL: University of Illinois Press. 292. Also online at: www.plainsound.org/JTwork.html.

play long tones swelling to and from a peak dynamic, while choosing their pitches freely from a common set of “available pitches.” This set of “available pitches,” however, slowly changes. Its evolution effects a gradual migration through a sequence of seven isolated “milestone” harmonies (i.e., chords) that wax and wane in size over the course of the piece. Each of these milestone pitch-collections corresponds to a set of low harmonics, so that each evokes relative consonance, a sensed harmonic simplicity, and a warm blend that flirts with fusion. Each such milestone harmony, however, is associated with a different fundamental, and the migrations between milestone harmonies are accomplished one pitch at a time. Between successive milestones other more “complex” or “dissonant” transitional harmonies thus appear. For example, in the first (waxing) portion of the piece the lowest pitch in each new milestone harmony is both the last to be supplied and the most closely related to the new fundamental. Its arrival thus dramatically simplifies or “rationalizes” the perceived harmony, effecting what Tenney once described to me as a “sudden making of sense” to the pitches one has been hearing. The surprising qualitative effect of this arrival is at once intriguing and visceral. As composer Gayle Young recalled from an early rehearsal with Tenney: “He was eager to share with us not only the numerical basis of the tunings used, but also the physical experience of hearing the new harmonies and recognizing the higher overtones. In performing the piece, we learned to engage with sound at all levels: physically, perceptually, and intellectually.”

For 12 Strings (rising) (1971) is the earliest composition recorded here. It represents an arrangement for strings of Tenney’s classic electroacoustic composition *For Ann (rising)* (1969), which predated his interest in harmony. It nonetheless shares with much of his subsequent music a ruthless simplification of form and

structure that eschews narrative drama in order to highlight the subjective processes and perceptions of the listener. In fact, it takes such reduction to a radical extreme: The interior of the piece sustains a spartan repeating texture for several minutes with no change whatsoever. Structurally, this texture recalls a curious electro-acoustic signal known as a Shepard tone, which seems to rise continuously without ever getting any higher—the sonic equivalent of a barber pole.³ This paradoxical effect is achieved by overlapping many concurrent glissandi, all evenly spaced across a wide pitch-range and rising in parallel, with each glissando slyly faded-in in the deep bass and correspondingly faded-out in the high treble. In *For 12 Strings (rising)*, Tenney created a similar effect using purely acoustic means by relaying glissandi from lower to higher instruments such that each glissando traverses the range of the combined string choir. Among the many possible aural paths into the texture, listeners might challenge themselves to follow a single meta-glissando from its appearance in the deep bass to its disappearance in the high treble. This task proves surprisingly difficult insofar as attention is apt to slip from the intended glissando to some adjacent one. More elaborate attentional trajectories—either involuntary or deliberate—can range along and across glissandi. For instance, a listener might deliberately evoke looping patterns or improvisatory lines as they direct their attention among glissandi like a skier bouncing among moguls. The apparently static texture thus invites a radically active and creative approach to listening.

Two Koans and a Canon (1982) was written as an anniversary present for Tenney's wife at the time, violist Ann Holloway. The first movement is entitled

³ The effect is named after pioneering cognitive scientist Roger N. Shepard (1929–), alongside whom Tenney worked at Bell Labs in the early 1960s.

“First Koan (a gentler *Beast*)” and constitutes a variation upon Tenney's earlier *Beast* (1971) for solo double bass. It is a study in acoustical beating, an alluring rhythmic pulsation audible between tones whose pitches are sufficiently close to each other. The violist bows two strings simultaneously throughout. One is an open string that supplies an unvarying drone pitch. The other string is stopped so as to create small intervals against the drone that open and close in waves of increasing compass. The rate of the resulting beating increases when the tones diverge, decreases when they converge, and is nil when they precisely coincide in pitch. At rates greater than about 15 pulsations per second, the character of beating grades from rhythm into granularity, and this inherent limit to the beating phenomenon coincides with the movement's apogee of intervallic expansion.

The “Second Koan” in turn recalls Tenney's *Koan* (1971) for solo violin. It exhibits another of his radically reduced formal designs: a steady cross-string tremolo that gradually migrates upwards in register across the strings of the instrument. As it does so, the pitch interval between the tremolo's two alternating tones slowly and repeatedly closes and then opens again. Many of Tenney's pieces after 1969 exhibit such streamlined predictability achieved via gradual musical processes. As boldly iconic as such forms may be in themselves, they also deliberately permit and promote close and active listening to fine sonic detail. Regarding the affordances of such forms the composer remarked that, “What [listeners] can do is begin to really *listen* to the sounds, get inside them, notice the details, and consider or meditate on the overall shape of the piece, as simple as it may be. It's often interesting how within a simple shape there can be relationships that are surprising.”⁴ Meticulously careful

⁴ Tenney 1978.

listening to “Second Koan” accordingly reveals a wealth of sonic minutiae and structures. For instance, behind the sonic grill of the unbroken tremolo, subtle timbres, resonances, decays and beatings may be descried, all varying over the course of the movement as the music traverses the instrument’s registers. Occasionally higher harmonics become conspicuous, sometimes dancing in surprising patterns, especially as the tones of the tremolo approach or depart unisons. Of course, the repeated scan through a gamut of more and less consonant intervals evokes the composer’s interest in harmonic relationships, still nascent in 1971.

The brief final “Canon” is the most structurally complex of the movements. Alone of the three it employs a live tape-delay system. This system reiterates gradually decaying echoes of the instrumentalist at a lag of two measures (six seconds), thus supplying the canonic imitation to which the title alludes. The viola gradually ascends the harmonic series of its low C string, introducing one new pitch every two measures. These pitches, however, are articulated in complex rhythms carefully designed such that—when combined with the echoes from the tape-delay system—a complex polyrhythm is accumulated in which the tempo articulated by a given harmonic corresponds to its height within the harmonic series. (This structure perhaps distantly nods to the analogies between pitch and rhythm that appear in the music and writings of American composer Henry Cowell (1897–1965).) Melodic resultants skitter up and down the series in complex patterns before the form suddenly pivots. A single high pitch is isolated and reinterpreted as a harmonic of a new fundamental, allowing the music to descend a different harmonic series than the one that it ascended.

From 1975–84, Tenney produced a number of other compositions calling for the use of a tape-delay system in live performance, which he once referred to as “the

poor man’s orchestra” for its ability to produce lush textures from few instruments. The most texturally sophisticated of these pieces is surely *Voice(s)* (1984), which requires the use of four separate tape machines. (Of course, today their operation can be replaced in performance by a single relatively simple computer program.) The instrumentation called for by the score is variable but must include at least one soprano voice. As in *Harmonium #1*, performers independently select their pitches from gradually varying “available pitch sets.” Here, however, these sets are larger, and players are invited to freely improvise lines using them. Specifically, these available pitch sets range up and down within the harmonic series of a low B-flat.⁵ At times they explore warm consonances from the series’ lower range, while at others they project complex dissonances from its upper reaches, and sometimes both together.

Two of the tape machines used in *Voice(s)* cooperate as usual to thicken the texture with decaying echoes at six-second intervals. A third machine records the first third of the performance. This recording is then replayed live in reverse and at half-speed, yielding a slowed and retrograded version of its content that sounds one octave lower and lasts twice as long as the original (so that this content replays over the course of the last two thirds of the piece). This transposed and retrograded material constitutes one of two “meta-voices” that enter as the piece unfolds, each derived from a recording of the full ensemble together with its tape echoes. The second of these meta-voices is supplied by the fourth and final tape machine, which records the first two thirds of the performance. This recording is then replayed forward at double-speed, yielding a forward version of its content that sounds one octave higher and lasts half as long as the original (so that this content

⁵ Wannamaker, Robert. (2007). “The Spectral Music of James Tenney.” *Contemporary Music Review* 27(1): 112–17.

replays over the course of the last third of the piece). Under the combined actions of the ensemble, the echo system, and these contrapuntal meta-voices, a teeming texture of great harmonic and polyphonic complexity gradually builds. Especially near the conclusion, revenant versions of instrumental lines heard earlier occasionally emerge in the double-speed layer. Only in the closing minutes does the fundamental of the harmonic series finally appear as a sounding tone, supplying a sturdy bedrock beneath the teeming sounds.

In way of a bonus, the final track offers a glimpse into the breadth of Tenney's personal musical interests. He maintained a longstanding affection for diverse American popular musics, including blues, ragtime, jazz, and rock 'n' roll, and occasionally these styles would manifest (overtly or otherwise) in his experimental music. Here his appreciation for the blues is expressed forthrightly in a literal transcription and arrangement of Jaybird Coleman's 1927 recording of "No More Good Water 'Cause the Pond is Dry" on Gennett Records. Tenney carefully transcribed both Coleman's aching vocals and his intervening harmonica choruses for solo viola. Like *Two Koans and a Canon*, he dedicated *Blues for Annie* to violist Ann Holloway, then his recent bride. Four years later Tenney would revisit Coleman's recording and this transcription in the first movement of *Three Indigenous Songs* (1979), an experimental spectralist work involving the transcription of speech sounds.⁵

—Robert Wannamaker

Robert Wannamaker is a composer, improviser, and music theorist. He is Associate Dean and Professor of Music Theory, Composition History & Literature at the California Institute of the Arts.

⁵ Ibid., 107–11.

Since its inception in spring 2006, the Amsterdam-based **Scordatura Ensemble** has presented exploratory music by a range of contemporary composers and sound artists that looks toward new tuning systems and microtonality as a way of expanding the harmonic vocabulary of music. The ensemble—originally under the name *Trio Scordatura*—was founded by musicologist, musician, and writer Bob Gilmore (1961–2015). At present, it continues under the artistic direction of Elisabeth Smalt and Alfrun Schmid. The basic sound world of female voice, viola, MIDI keyboard, and bass clarinet is expanded by other sonorities depending on musical context. Their concerts feature “classics” from the worlds of microtonal and spectral music together with new commissions. www.scordaturaensemble.nl

Scordatura grew initially from a project to perform the works for intoning voice, *Adapted Viola* and *Chromelodeon* by the American iconoclast Harry Partch, for which the ensemble commissioned an exact copy of Partch's *Adapted Viola*, authorised by the Harry Partch Foundation. Since then, several other Partch instruments were built, leading to the concert tour *Rose Petal Jam* (2017/18) which features Partch's early chamber music oeuvre combined with new works. Another recent project is *Vicentino, a Second Life*, with new compositions inspired by the microtonal madrigals of Nicola Vicentino, a 16th-century visionary composer and music theorist. Since 2006 Scordatura has been invited to perform at experimental music festivals all over the world. The ensemble formed close working relationships with Phill Niblock, the late Horatiu Radulescu, François-Bernard Mâche, Peter Adriaansz, Christopher Fox, Anne La Berge, Marc Sabat, Linda Buckley, Yannis Kyriakides, Anton Lukoszevieve, Nelly Boyd, and many others. Recordings have been released on Ergodos Records (*Dubh*, 2010; *At Least Two Things*, 2012; *Enclosures*, 2016)

Mode Records (*Brazil 84* DVD, 2014), Divine Art/Métier (*Natural Science*, 2011), and Pogus Productions (*E and Sometimes Why*, 2012; *12 Color Sonnets*, 2017).

Viola player **Elisabeth Smalt** works primarily as a chamber musician, in styles ranging from period-instrument performance to extremely new music. Since 1998 she has been the violist of the Brussels-based Oxalys Ensemble, which won the Flanders radio prize “Ensemble of the Year” in 2017 and made several award-winning recordings. Smalt is interested in unusual music and alternative tuning systems, using also the viola d’amore and a copy of Harry Partch’s Adapted Viola. As a member of The Barton Workshop she specialized in music by Morton Feldman and John Cage, and she has commissioned many new works with the Zephyr String Quartet from 1999 to 2006. She has premiered solo viola works, most of them written for her, by Frank Denyer, Christopher Fox, Rozalie Hirs, Phill Niblock, Kevin Volans, Deirdre McKay, Christian Wolff, Patrick Ozzard-Low, Judith Ring, Yannis Kyriakides, and Horatiu Radulescu.

Alfrun Schmid is a singer and conductor, originally from Munich, Germany, and currently based in the Netherlands. As a soloist she sang Dido in Purcell’s *Dido and Aeneas*, Messagiera and Proserpina in Monteverdi’s *Orfeo*, Bess in Gershwin’s *Porgy and Bess*, Fenena in Verdi’s *Nabucco*, and Mercedes in Bizet’s *Carmen*, as well as in oratorios under conductors Kenneth Montgomery, Daniel Reuss, and John Eliot Gardiner. Schmid is a specialist in contemporary repertoire, both as a singer and choir conductor, and advocates just intonation and microtonal music as a natural and self-evident musical expression.

SELECTED DISCOGRAPHY

Cognate Canons. William Winant, percussion; Eclipse Quartet. New World Records 80740.
Forms 1–4. MusikFabrik. hat[now]ART 2-127.
Harmonium No. 3. Ellie Choate, Susan Allen, Marilu Donovan, harps. Included on *Postcard From Heaven*. New World Records 80763.
Melody, Ergodicity and Indeterminacy. The Barton Workshop. Mode 185.
Music for Violin and Piano. M. Sabat, violin; S. Clarke, piano. hat[now]ART 120.
Postal Pieces. The Barton Workshop, James Fulkerson, music director. New World Records 80612 [2CDs].
Seegersong #2. Margaret Lancaster, flute. Included on *Io*. New World Records 80665.
Selected Works 1961–1969. New World Records 80570.
The Solo Works for Percussion. M. Kaul, percussion. hat[now]ART 111.
Spectral CANON for CONLON Nancarrow. Included on *Cold Blue*. Cold Blue Music CB0008.
The Spectrum Pieces. The Barton Workshop, James Fulkerson, music director. New World Records 80692 [2 CDs].

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PRODUCTION CREDITS

For 12 Strings (rising)

Engineer: Joeri Saal; Producers: Elisabeth Smalt, Christian Smalt
Recorded December 15, 2017 at Studio 150, Amsterdam.

Harmonium #1

Engineer: Johan Vandermaelen; Producer: Bob Gilmore
Recorded 2008–2010 at Amplus Studio, Aaigem, Belgium.

Two Koans and a Canon (First movement)

Engineer: Scott McLaughlin; Producer: Bob Gilmore
Recorded January 4, 2012 at Scordatura studio, Amsterdam.

Two Koans and a Canon (Second and third movements) and *Blues for Annie*

Engineer: Joeri Saal; Producers: Elisabeth Smalt, Christian Smalt
Recorded December 28, 2017 at Studio 150, Amsterdam.

Voice(s)

Engineer: Scott McLaughlin; Producer: Bob Gilmore
Recorded January 6, 2012 at Scordatura studio, Amsterdam.

Harmonium #1, *Voice(s)*, and *For 12 Strings (rising)* are published by Smith Publications.
Blues for Annie and *Two Koans and a Canon*: manuscripts from the James Tenney archive,
with kind permission of Lauren Pratt.

Digital mastering: Paul Zinman, SoundByte Productions Inc., NYC

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Design: Jim Fox

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This CD was initiated by Bob Gilmore (1961–2015), founder and inspiration for our ensemble. It was Bob who introduced us to Tenney’s wonderful music, and we would like to dedicate this CD to him, in loving memory. —Alfrun Schmid, Elisabeth Smalt

With special thanks to Lauren Pratt, Larry Polansky, Harm Mouw, Peter Riebeck, and Chris Rainier.

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Francis Goelet (1926–1998), *In Memoriam*

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