

Don Ellis's Rhythm: Complete Content Analysis

A technical study of the complete photographed book, its pedagogy, compositions, and relationship to The Exotic Rhythms of Don Ellis

Prepared for Sean P. Fenlon • 6 September 2026

Executive assessment

Rhythm connects bodily coordination, exact temporal relationships, melodic invention, and compositional design. Ellis begins with singing, memory, and physical timekeeping; separates grouping from pulse and density; develops proportional rhythms and calculated cadences; and applies those resources to songs, improvisation, ensemble arrangements, and chamber music. The complete book is both a practice method and a source of musical ideas. [Rhythm, pp. 1–113](#).

The new iCloud exports contain **62 matching still-image stems covering all 113 numbered pages**, together with the cover, title, contents, and closing views. The higher-resolution HEIC originals underpin this analysis and its photographic figures. The interior score pages of 3:5:7 are intentionally excluded by Ellis, who includes only its first and last pages; this is not a photographic gap. [Rhythm, p. 106](#).

The recovered ending reveals the purpose of the pedagogy. S.S. keeps bar duration constant while changing beat speed. *Sweet Nineteen* turns counting and dancing into a song. *New Nine* integrates additive groove, modal improvisation, and ensemble routing. *Orientation* exposes the consequences of rewriting 7/8 + 9/8 as 4/4. 3:5:7 combines an audible clock, tihais, and rational intonation. [Rhythm, pp. 99–113](#).

Your dissertation and this book supply complementary perspectives. *The Exotic Rhythms of Don Ellis* classifies rhythmic relationships and traces their integration in *Strawberry Soup*. *Rhythm* provides the physical and imaginative procedures through which performers acquire those relationships. The dissertation explicitly excludes detailed clapping and tapping technique. [Fenlon, pp. 94–109, especially p. 100 n. 151](#).

Two categorical statements warrant qualification: the complete book does use jazz-specific concepts and does discuss practical effects on perception. These refinements strengthen the larger analysis of construction, performance, and hearing; they do not overturn the dissertation's taxonomy. [Fenlon, pp. 82, 113–114; Rhythm, pp. 85, 98–108](#).

The photographs establish a complete textual witness. They do not establish autograph status or uniqueness of the physical object. Thick stock alone cannot resolve either question.

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1. What kind of book is this?

A complete architecture, not a single genre

The title page reads *Rhythm*, with the subtitle *A new system of rhythm based on the ancient Hindu techniques*, and a 1977 Objective Music Co., Inc. copyright notice. The contents specify twelve chapters, preceded by an introduction, raga material, and general instructions, and followed by supplementary compositions. This is the unpublished typescript/manuscript work discussed by Fenlon, distinct from the published *The New Rhythm Book* and its accompanying *New Rhythms* recording. [Rhythm, title and contents; Fenlon, pp. 6, 77–82.](#)

Book division	Pages	Principal operation
Introduction; The Ragas; General Instructions	1–11	Establish purpose, pitch resources, memory, articulation
1. Basic Rhythmic Exercises	12–38	Grouping, displacement, complements, changing density
2. Basic Rhythmic Exercises Continued: Triplets, Quintuplets and Septuplets	39–47	Separate tuplet rate from melodic grouping
3. Basic Ways of Dividing 5, 7, and 9	48–62	Cross body and voice groupings at four rates
4. How to Count Cross Rhythms Against 4/4 (or Any Steady Pulse)	63	Preserve a recording's pulse and larger form
5. Keeping Tal	64–67	Maintain cycle identity through gesture and syllable
6. Syncopation	68–78	Retain time and melodic position through silence
7. Advanced Counting Exercises	79–83	Sustain independent count cycles
8. Superimpositions	84–92	Construct exact ratios over a shared span
9. Tihais	93–98	Design repetition to arrive on a chosen downbeat
10. Combining Talas	99	Superimpose whole cycle structures
11. Switching Subdivisions	100–102	Change density immediately; preserve the chosen clock
12. Advanced Rhythmic Rows	103–105	Compose long cycles and vary their internal grouping
Supplementary Examples of Compositions	106–113	Apply the system to repertoire and ensemble practice

The table follows the photographed contents and chapter openings. The page counts describe this witness; they are not a bibliographic claim about every historical version of the work.

Its dominant genre is pedagogical, but its component genres are plural. The numerical matrices are coordination studies. The pitched passages are etude-like realizations. The instructions form a practice method. The ratio constructions and cyclic arithmetic constitute practical theory. The discussion of particular works is composer's analysis. The lead sheets and chamber-score excerpts are compositional evidence. The introduction and closing exhortations also articulate a cultural and educational program. [Rhythm, pp. 1, 11–12, 84–85, 93–106.](#)

Your impression of “liner notes” is therefore understandable. Page 106 explains specific pieces in a manner familiar from album commentary. Its verifiable function here, however, is **composer's notes introducing score examples**. Nothing on that page identifies it as a reprint from an album sleeve. Actual Ellis liner notes are a separate source category in the dissertation, and some material in *The New Rhythm Book* derives from them. Keeping those relationships distinct prevents a useful genre intuition from becoming an unsupported publication-history claim. [Rhythm, p. 106; Fenlon, pp. 4–5, 78.](#)

How to read this report

Book citations use the handwritten/printed book pagination. Dissertation citations use its printed pagination; printed p. 1 is PDF page 13. Photograph captions retain the original image stem and the side of the spread. Source images are cropped and resized for legibility; no notation has been reconstructed inside them. Equations, onset lists, counts, and schematic diagrams identified as analysis are derived for this report.

The analysis covers every section of the photographed book. Musical transcription is selective and serves particular arguments; this is not a note-for-note critical edition. No audio recording was analyzed in this study. Statements about possible hearing or performance are interpretations of the notation and Ellis's directions, unless specifically attributed to the dissertation's recording analysis.

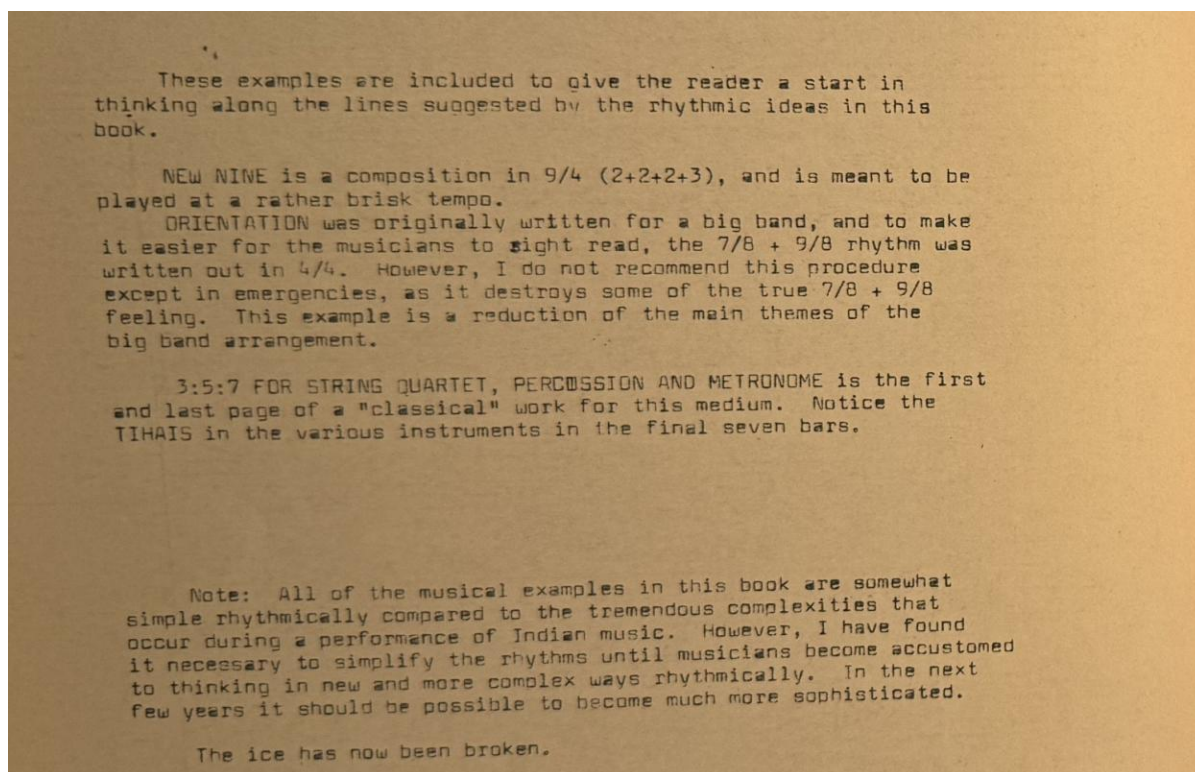


Figure 1. Ellis's explanation of the supplementary compositions, including the intentional first-and-last-page excerpt of 3:5:7. Actual photograph detail: Rhythm p. 106, IMG_5874, left.

2. The technical core: identify what remains constant

Six coordinates of an Ellis exercise

"Tempo stays the same" is inadequate unless one specifies **which duration stays the same**. A quarter note, a bodily count, a whole bar, and a complete tala can be different reference units. The book repeatedly preserves one while changing another. Its apparent complexity becomes more tractable when each example is described through six coordinates:

Coordinate	Question to ask	Typical evidence in Rhythm
Reference duration	What clock remains fixed?	Quarter constant; claps unchanged; bar = MM 60
Cycle length	How long until the ground resets?	Four bodily counts; Teen Tal 16; a recording's form
Grouping	Where are the internal boundaries?	2+3, 3+2, 3+3+2+2+2+1+2+2+2
Density	How many equal events fit a reference span?	Single/double/quadruple; 7 against 4
Phase and attack selection	Where does the line enter, and which positions sound?	An initial rest; suppressed syllables; sparse syncopations

Coordinate	Question to ask	Typical evidence in Rhythm
Return and form	Where must the phrase or ensemble arrive?	Sam; a blues chorus; a cue; a fixed final attack

These are analytical coordinates, not Ellis’s own formal list. They explain the relationships among his chapters without pretending that he wrote a modern axiomatic theory.

Let one bodily unit have duration τ , a ground contain M such units, and a vocal cycle contain N equally spaced events at density d events per bodily unit. Its duration is $N\tau/d$. If the entire ground pattern must recur and d is integral, the first complete joint return in bodily units is:

$$T = MN / \gcd(N, dM).$$

For a four-event vocal cycle over a three-unit ground, T is 12, 6, and 3 bodily units at densities 1, 2, and 4. Increasing density changes the recurrence structure as well as the articulation speed. That distinction is latent in the Chapter 7 charts. [Rhythm, pp. 79–83](#).

Three different meanings of “five against four”

A continuously repeating five-unit phrase over a four-unit ground shares the same small pulse and returns after 20 units. Five equally spaced attacks fitted inside four beats instead have spacing $4/5$ of a beat and complete their stipulated span after four beats. A finite pattern such as 5+5+3+3 is a third construction: it fills 16 units by changing the final group lengths. Those three operations can sound related, but their clocks, closures, and practice demands differ.

Construction	Held constant	Result
Continuous 5-unit cycle over 4	Elementary pulse	Joint cycle return after 20 units
Five attacks within four beats	Four-beat span	Attack spacing $4/5$ beat
5+5+3+3 within 16 units	Sixteen-unit phrase	A deliberately composed complement and return

This distinction matters throughout the report. Least-common-multiple arithmetic describes freely recurring periodic layers. It does not automatically describe a phrase whose ending Ellis deliberately modifies. Similarly, a tuplet numeral cannot be read without its notated span.

Temporal equivalence also does not establish metric equivalence. A group of four and two groups of two occupy the same duration but may have different internal stresses. A $7/8 + 9/8$ cycle and two $4/4$ bars occupy the same duration but propose different boundaries. Fenlon already makes the stress-architecture distinction in his discussion of syllables; *Orientation* provides Ellis’s own practical demonstration. [Fenlon, pp. 110–114](#); [Rhythm, pp. 106, 109](#).

3. The opening pages: a pedagogy of internalization

The problem Ellis is trying to solve

The recovered introduction gives the book a specific origin story. A student asks how to learn jazz in $7/4$, $9/4$, and $5/4$. Ellis’s initial answer—practice blues in those meters—does not exhaust what can

be taught. The book supplies the additional method. He credits Hari Har Rao and Gayathri Rajapur and broadens the audience to classical instrumentalists, conductors, composers, teachers, children, and advanced virtuosi. [Rhythm, p. 1.](#)

This is a claim about learnability. Ellis treats rhythmic difficulty as something shaped by exposure and training rather than as an intrinsic property of the meter. The observation should be understood as his pedagogical position, not as a demonstrated psychological law. Its consequence for the book is concrete: he decomposes a performance problem into activities that can be repeated, remembered, transformed, and recombined.

Page 11 is especially important. The learner first works an exercise out mentally, then performs it from memory. Daily work, singing away from the instrument, and mental practice during wind-instrument embouchure rests are explicitly recommended. Wind players are to tongue as well as slur the melodic studies. Every student is to invent variations and improvise within each pattern. Reading the written page is therefore only one phase of the intended process. [Rhythm, p. 11.](#)

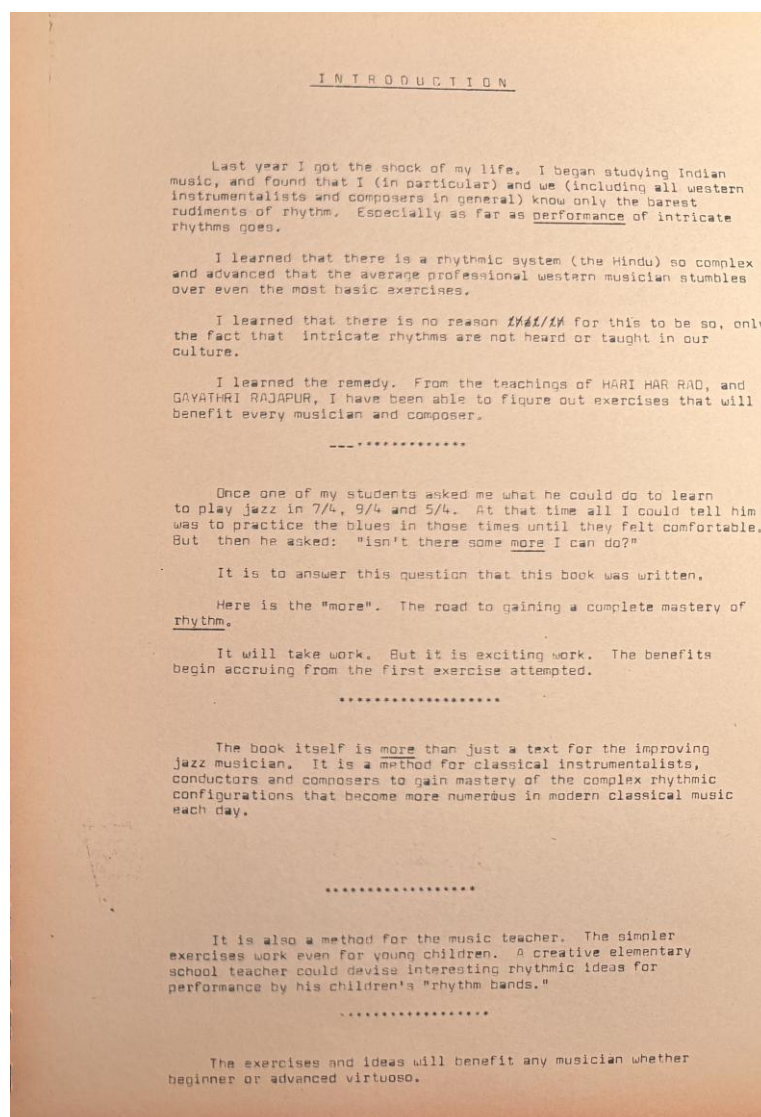


Figure 2. The recovered introduction connects Indian study, a student's practical question, and Ellis's broad educational audience. Rhythm p. 1, IMG_5821, right.

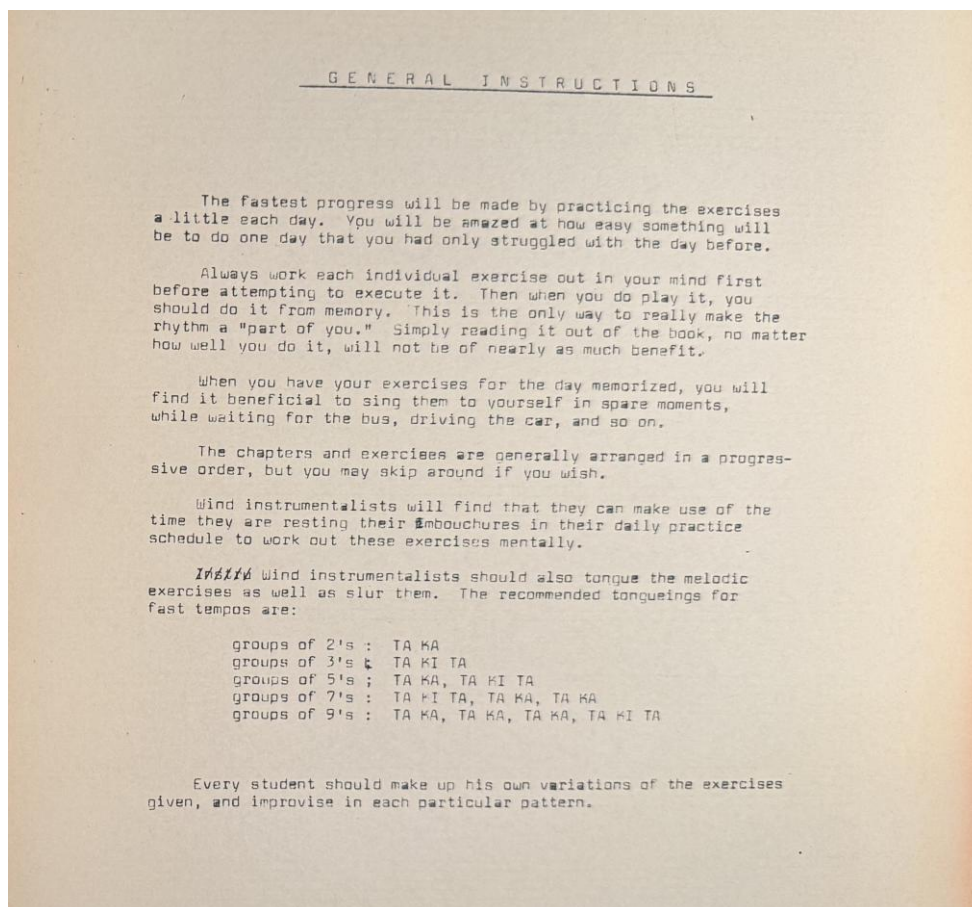


Figure 3. General instructions: memory, mental practice, articulation syllables, variation, and improvisation. Rhythm p. 11, IMG_5826, right.

For a wind player, this establishes several independent variables. The same temporal grouping can be slurred, tongued, sung on pitch names, or articulated with rhythmic syllables. Finger coordination, air continuity, and tongue pattern can be tested against a stable count. The book's usefulness is consequently not restricted to percussion technique, even where the conceptual source is percussion pedagogy. This is an interpretation of the explicit transfer instructions, not a claim that one articulation solution suits every instrument.

Raga material is structurally important

The raga preface is not decorative exoticism added to a rhythm manual. It supplies pitch environments in which the temporal exercises can recur. Ellis explains that a raga involves more than a scale: direction, ornament, emphasis, and non-tempered pitches matter. He expressly calls his intended use a **Western approximation**, makes ornament optional for the exercises, and begins with a C-major-like version of Shankarabharana. [Rhythm, pp. 2-4](#).

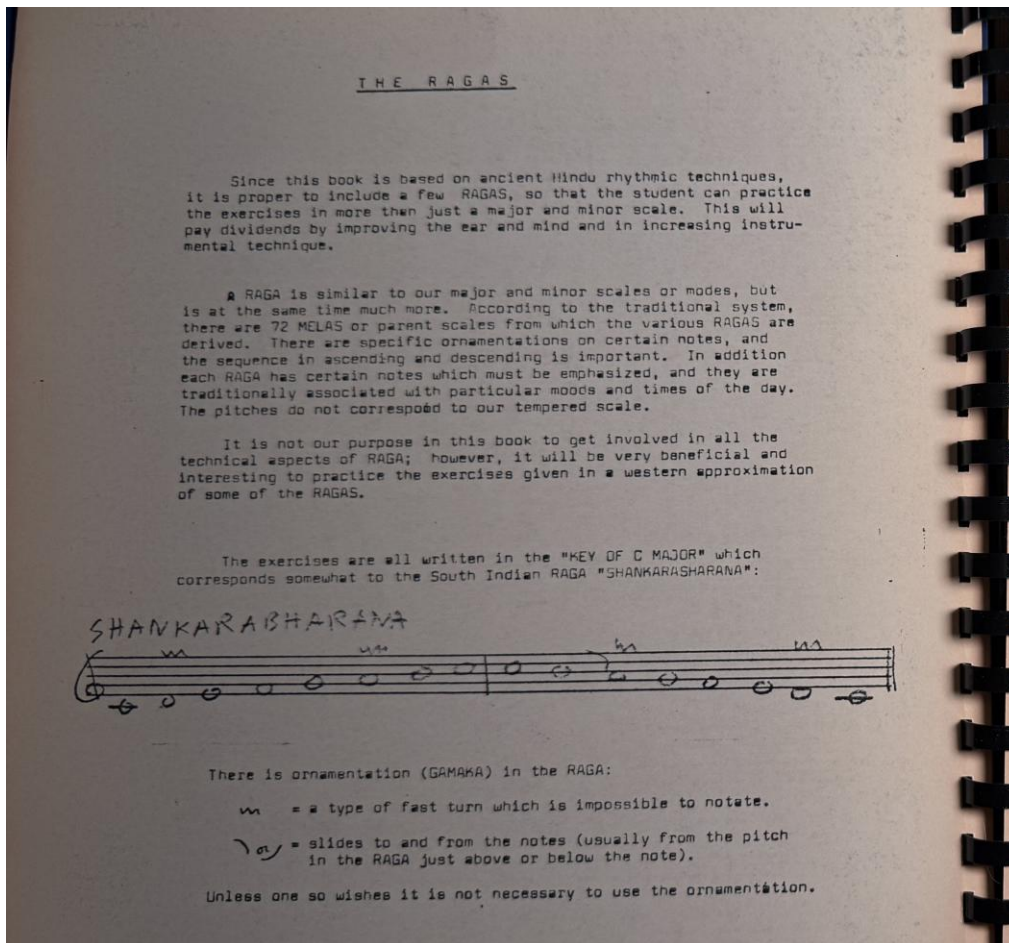


Figure 4. Ellis explicitly distinguishes a raga from a scale and limits the exercise material to a Western approximation. Rhythm p. 2, IMG_5822, left.

The six additional named examples are Mayamalavagoula, Kharaharapria, Kamavar-dhini, Kalyani, Shubhapanduvarali, and Hanumat-Todi, using the spellings visible in the manuscript. Their Western staff versions introduce different interval patterns; the Hanumat-Todi descent even marks selected tones a quarter tone low. These details caution against treating the later all-key instructions as nothing more than mechanically transposing a major scale. They also anticipate the book's closing interest in intonation. [Rhythm, p. 3.](#)

Page 4 tells the learner to begin with one or two ragas, transpose exercises through the chromatic tonics, and eventually extend the practice to the whole collection. The transferable object is thus a melodic relationship under a rhythmic condition, not a fixed set of concert pitches. If a rhythmic pattern retains its identity while the interval content changes, the learner must recognize and reproduce the time structure without depending on one memorized fingering sequence.

Rajapur's preparatory melodic studies

Ellis explicitly attributes the three preparatory exercise families to Gayathri Rajapur. The pages headed *Saralay Varisi*, *Janti Varase*, and *Datu Varase* develop scalar motion, repeated-note patterns, and disjunct movement. The notation includes an Ādi-tāla organization of 4+2+2 and instructions for double and quadruple speed. Before the main rhythmic chapters begin, melodic and temporal variables are already being combined. [Rhythm, pp. 4–10.](#)

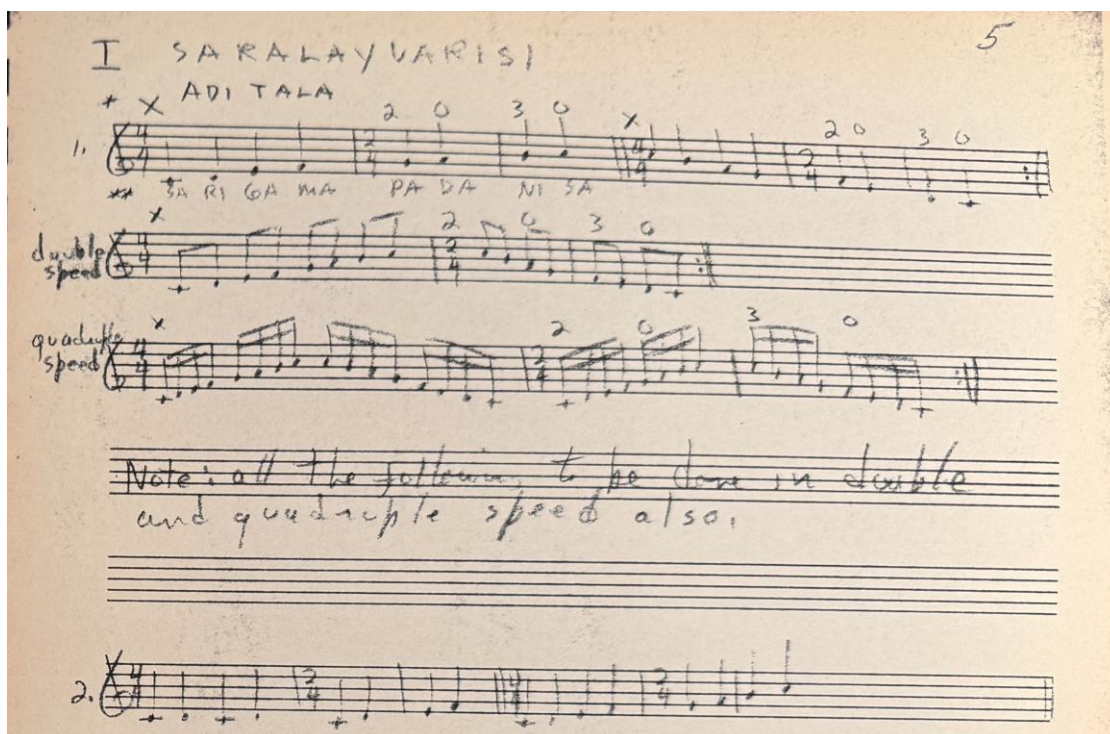


Figure 5. The first preparatory melodic exercise in Ādi tāla, including its three speed levels. Rhythm p. 5, IMG_5823, right.

The credits matter historically. The opening does not support reducing Ellis's Indian musical education to a single undifferentiated influence. UCLA's institutional history places Rao's teaching and Rajapur's South Indian vocal/instrumental teaching in the same early-1960s environment. The photographed book assigns visible roles to both. Smithsonian Folkways also documents a 1967 recording featuring Rajapur and Rao, providing a contemporary point of reference for that musical milieu. [UCLA, history of Indian music teaching](#); [Smithsonian Folkways, Vocal and Instrumental Ragas from South India](#).

The practical implication is to preserve those attributions in any future edition. The exercises should also retain Ellis's own stated distinction between an adaptable Western practice resource and a full account of Indian performance grammar.

4. Chapter 1: grouping, melody, and designed closure

The body establishes an independent reference

Page 12 specifies a four-count bodily pattern: clap on one, then touch successive right-hand fingers to the left palm. Numerical counting can become Indian rhythmic syllables, tabla bols, or pitch syllables and note names. The sounding layer moves through single, double, and quadruple rates while the bodily reference remains steady. Ellis also offers an ensemble version with a tonic/fifth drone, tala keepers, and exercise performers. [Rhythm, p. 12](#).

The drone and tala are parallel reference systems: one anchors pitch, the other time. The exercise performer works against both. This simple ensemble division turns individual coordination practice into a small model of an ensemble with distinct functions. The book begins by making musical independence physically executable.

Why 3+3+3+3+4 is not just “three against four”

The first major family fills a 16-event half-pattern with 3+3+3+3+4 and moves the four through all five positions. In the initial order, group onsets are 0, 3, 6, 9, and 12. Against the four-count ground, these fall at phases 0, 3, 2, 1, and 0. The repeated threes visit different bodily positions, but the final four closes the chosen 16-unit design. [Rhythm, pp. 13–15](#).

A continuous three-unit cycle would naturally meet a four-unit cycle after 12 units. Ellis’s 16-unit phrase instead solves a compositional problem: maintain the character of threes, then return within a larger regular span. The four is a chosen complement; it is not the smallest arithmetic remainder of 16 divided by 3. Replacing it with five threes plus one would preserve the total but change the phrase.

The melodic writing makes the group identities audible. The opening ascent uses overlapping fragments such as C–D–E, D–E–F, E–F–G, and F–G–A, followed by a four-note continuation. The descent answers the ascent. One 16-event half-pattern should not be confused with the complete 32-event ascending-and-descending exercise. At quarter-, eighth-, and sixteenth-note rates, that complete 32-event form occupies 32, 16, and 8 bodily quarter-note beats respectively.

Reordering the groups changes their placement against a fixed origin. The five versions would be cyclic rotations if one ignored where the cycle begins. The performer cannot ignore that origin: the body, melody, and return point establish it. The pedagogical object is the relationship between a movable pattern and a remembered downbeat.

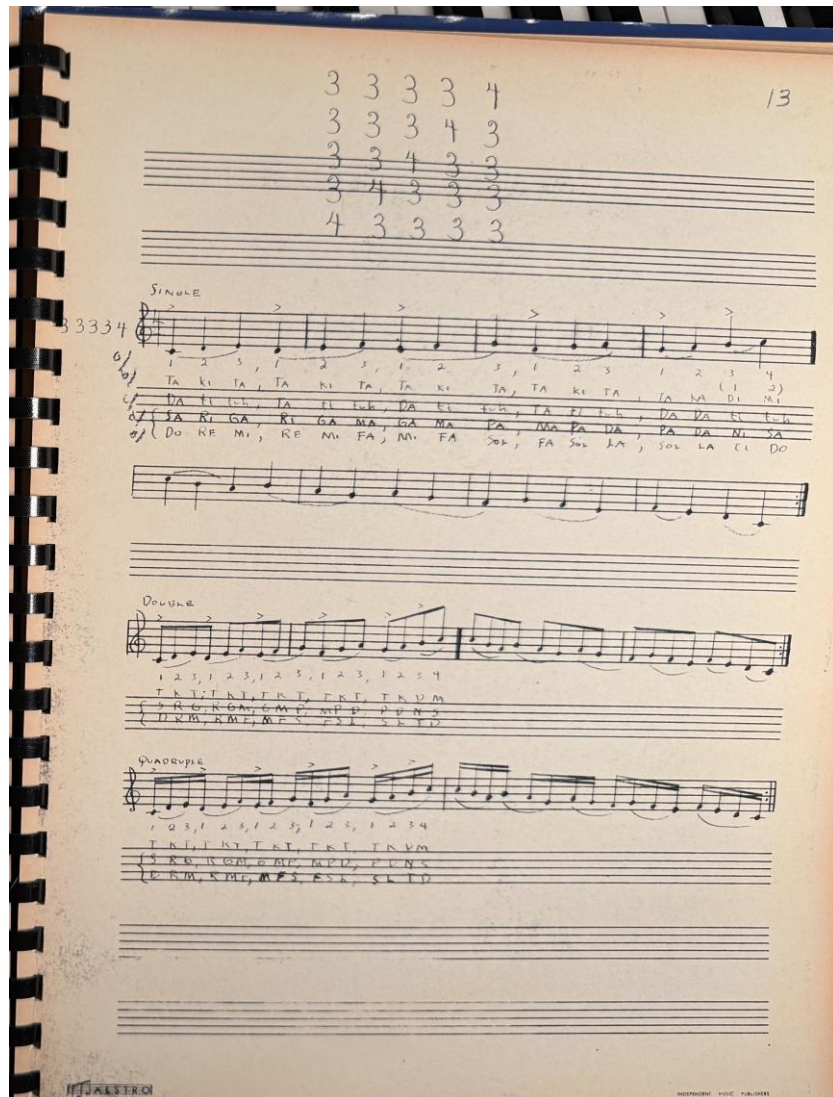


Figure 6. Three-note melodic cells, a four-note complement, and changes of density. Rhythm p. 13, IMG_5827, right.

Longer groups and complements

The next families generalize the procedure:

Family	Total event units	Structural purpose
3+3+3+3+4 and reorderings	16	Maintain threes; reposition a four-unit complement
Two fives and two threes	16	Exchange longer group order within the same span
7+7+2, 7+2+7, 2+7+7	16	Reposition a short complement
Six fives plus two	32	Extend the span; move the two through seven positions

Family	Total event units	Structural purpose
Four sevens plus four	32	Extend seven-unit grouping; move the four through five positions

The source lists five orders of two fives and two threes: 5533, 5353, 5335, 3535, and 3355. There are six distinct linear permutations mathematically; 3553 is not displayed in that local series. This is a source-level selectivity or omission, not evidence of a missing photograph. A useful practice extension is to supply that order explicitly as an editorial addition, without presenting it as an Ellis page. [Rhythm, pp. 19–23](#).

The 32-unit families reveal an economical compositional technique. Repeating a characteristic group establishes expectation; choosing and relocating its complement controls the return. Page 28 even offers an alternative that merges a terminal five and two into seven. The same total therefore supports more than one hierarchy of group identities. [Rhythm, pp. 25–38](#).

Silence creates a phase relation

The pattern written “0 5 5 5” on p. 24 is especially revealing. Here the zero denotes a silent position, not zero elapsed duration. Its temporal total is $1+5+5+5 = 16$. At the quarter-note rate the sounded five-groups begin at offsets 1, 6, and 11: bodily beats two, three, and four in successive four-count cycles. The bodily downbeat exists without a corresponding vocal attack. [Rhythm, p. 24](#).

At double and quadruple density, that omitted event lasts half and one-quarter of a bodily beat. The symbol sequence remains recognizable while the physical location of the re-entry changes. Silence is already an active compositional parameter, anticipating the syncopation studies and the controlled starts of the tihai chapter.

Pages 16–18 also ask the learner to concatenate versions and preserve the quarter note while changing density. The repetitive appearance of the chapter should therefore not be mistaken for redundant engraving. Each recurrence can change grouping origin, duration, articulation, melodic direction, or continuity. The full exercise is a set of conditions under which the same relationship must remain available.

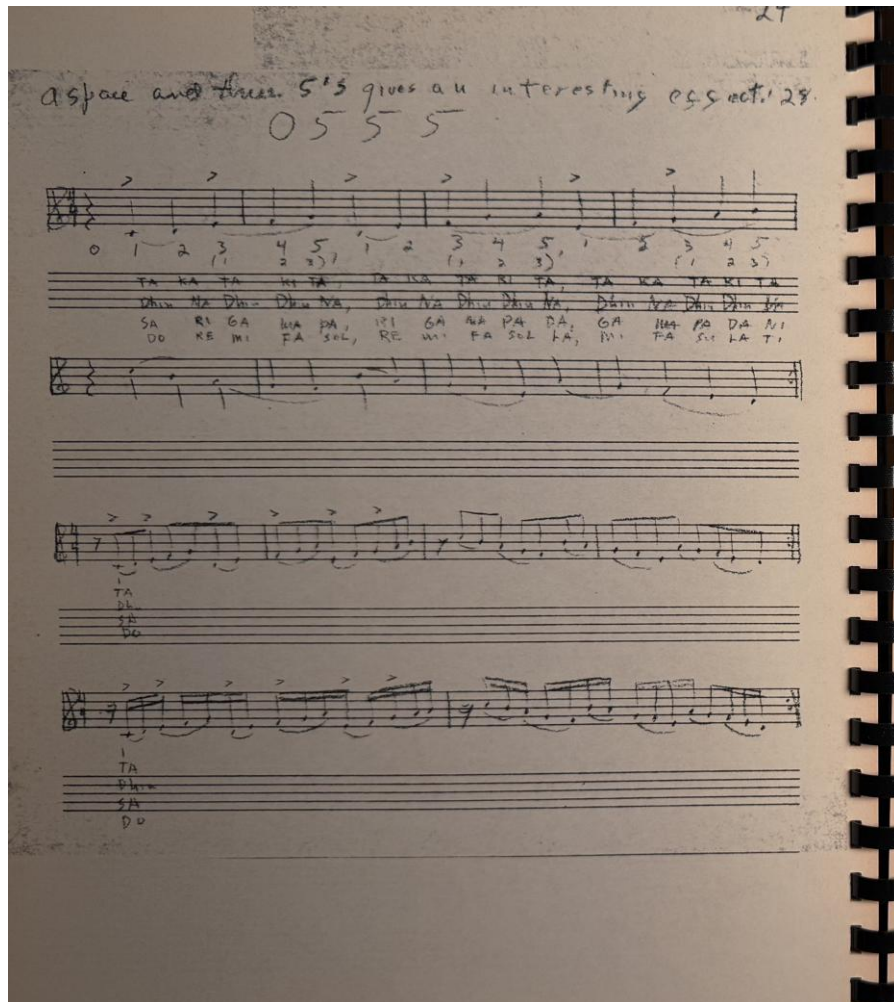


Figure 7. The initial silent unit in “0 5 5 5” changes the phase of the sounding groups. Rhythm p. 24, IMG_5833, left.

5. Chapter 2: tuplet rate and grouping are separate variables

Read the notated denominator

Ellis states that the aim is not merely to play tuplets, but to break them into cross-rhythms. A tuplet determines the spacing of equal events; a melodic or accent grouping determines how those events are organized. One does not imply the other. [Rhythm, p. 39.](#)

The first quarter-note quintuplet line on p. 43 explicitly uses 5:4, and the comparable septuplet line on p. 45 uses 7:4. They mean five or seven equal events in four quarter-note beats. The first triplet versions in pp. 41–42 use quarter-note triplets, three events in two quarter-note beats. Treating every tuplet numeral as “notes per beat” would misread the chapter.

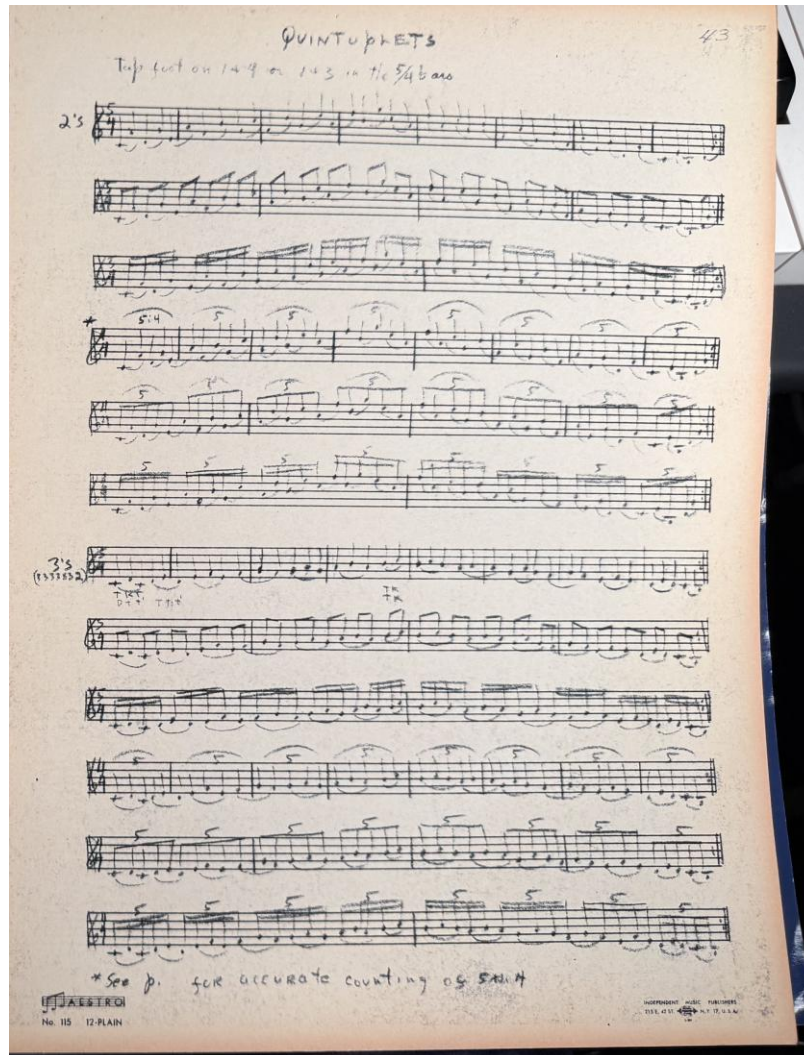


Figure 8. The written 5:4 span is essential to interpreting the quintuplet exercises. Rhythm p. 43, IMG_5842, right.

The 24-event groupings $5+5+5+5+4$ and $7+7+7+3$ make the distinction explicit. Their preparatory straight-quarter versions occupy 24 quarter-note beats. In quarter-note triplets they occupy 16 quarter-note beats; in eighth-note triplets, eight; and in sixteenth-note triplets, four. Each figure describes a half-pattern before its answering continuation. The event count, not the elapsed duration, is the common object across these versions. [Rhythm, pp. 41–42.](#)

Rate for a 24-event half-pattern	Events per quarter-note beat	Elapsed quarter-note beats
Straight quarters	1	24
Quarter-note triplets	$3/2$	16
Eighth-note triplets	3	8
Sixteenth-note triplets	6	4

An exact quintuplet example

For 5:4 quarter-note quintuplets, choose a grid of 20 ticks over four quarter-note beats. Bodily beats begin at ticks 0, 5, 10, and 15; quintuplet attacks at 0, 4, 8, 12, and 16. If those attacks are continuously grouped in twos, the accent starts occur at 0, 8, 16, 24, 32, and so on. Their spacing is $\frac{8}{5}$ of a quarter-note beat.

The complete two-event grouping and the original four-beat frame jointly recur after 40 ticks, or eight quarter-note beats. Within that span there are ten quintuplet events and five two-event groups. The learner therefore controls a base beat, a tuplet event rate, and a grouping cycle at once. This is a derived timing analysis of the kind of material printed on pp. 43–44; it is not a replacement for reading the actual bracket and beams.

Melodic grouping can carry harmonic content

The p. 40 four-note material includes C–E–G–B, a diatonic seventh-chord outline, and a footnote extends the procedure to the seventh chords of the key. Pitch does more than fill empty rhythmic positions: it makes a four-event identity audible against the surrounding triplet organization. The book contains harmonic practice resources without becoming a general harmony treatise. [Rhythm, p. 40](#).

The optional 14-event patterns on p. 47—554, 545, 455, and 33332—provide alternate organizations of a span associated with sevens. Their equal totals do not make them interchangeable accents. The player is learning to hear grouping as a movable structure inside an independently known duration.

6. Chapter 3: a matrix of bodily and vocal relationships

Directed pairings, not interchangeable tasks

Chapter 3 holds an additive bodily pattern while the voice articulates another grouping of the same total. Clapping 2+3 while saying 3+2 is arithmetically reciprocal to clapping 3+2 while saying 2+3, but it assigns the work to different actions. The chapter's paired charts are therefore meaningful even where the numbers appear to duplicate one another. [Rhythm, pp. 48–62](#).

In a five-unit span, body accents for 2+3 occur at {0, 2}; vocal accents for 3+2 at {0, 3}. Their combined onset set is {0, 2, 3}, with coincidence only at the beginning. Reversing the roles preserves the combined set but changes which action must sustain which structure. The skill being tested is role-specific independence.

CHAPTER 3

BASIC WAYS OF DIVIDING 5, 7 and 9

In order to become completely natural and fluent in the meters of 5, 7 and 9, it is necessary to be able to combine the various subdivisions one with the other.

This can be learned by clapping the basic subdivision and counting the variations out loud.

For example: 5 can be divided two ways: 2+3 or 3+2. To mark the basic subdivision 2+3, clap on the first and third beats and (when the tempo is not too fast) lightly tap the little finger of the right hand on the palm of the left on the second and fourth beats, and tap the fourth finger similarly on the fifth beat.

Start very slowly, count "one, two three four five" out loud until the meter is firmly established, then double, quadruple and halve the vocal count, keeping the original claps the same.

	2+3				
a/	1	2	3	4	5
		little		little	fourth
basic	clap	finger	clap	finger	finger
COUNT:					
single	one	two	three	four	five
double	1 2	3 4	5, 1	2 3	4 5
quadruple	1 2 3 4	5, 1 2 3	4 5, 1 2	3 4 5, 1	2 3 4 5
half	1	--	2	--	3
	--	4	--	5	--

When this is secure, start again at a faster tempo and work up to as fast a tempo as possible. (Be sure to keep whatever tempo you are practicing precisely steady, or most of the value of these exercises will be lost).

Figure 9. A five-count ground and its continuous-count foundation at four rates. Rhythm p. 48, IMG_5845, left.

The complete chart inventory is substantial but precisely bounded:

Ground family	Body groupings	Charts	Directed grouping pairs	Free-improvisation prompts
Five	23; 32	6	4	2
Seven	322; 223; 232	12	9	3
Nine	2223; 3222; 2232; 2322	20	16	4
Total	9 selected ground patterns	38	29	9

Each chart includes single, double, quadruple, and half speed: **152 nominal chart/rate conditions**. That figure counts printed practice conditions, not independent compositions or unrelated theoretical mechanisms. Nine additional charts within the 38 use continuous numerical counting rather than a competing grouped pattern.

The important event is often between bodily beats

At double speed a five-event vocal cycle repeats after 2.5 bodily beats; a seven-event cycle after 3.5; a nine-event cycle after 4.5. The second vocal “one” falls between bodily beats. At quadruple speed the respective cycle durations are 1.25, 1.75, and 2.25 beats. These fractional locations make ordinary assumptions about a downbeat coincide poorly with the vocal reset.

At half speed, the vocal cycle extends over two complete bodily cycles. In a seven-count example, spoken 1–4 fall at bodily positions 1, 3, 5, and 7 of the first cycle; spoken 5–7 fall at positions 2, 4, and 6 of the next. The chart’s two rows form a continuation, not two alternatives. A vocal 3+2+2 pattern in augmentation becomes 6+4+4 bodily units while the seven-unit ground continues beneath it.

Fenlon’s discussion of exact-multiple metrical superimposition identifies precisely this mechanism. The book adds the executable instructions and the full set of selected bodily conditions. The dissertation’s reproduced matrix is thus a sample of a much larger practice architecture. [Fenlon, pp. 99–101](#); [Rhythm, pp. 48–62](#).

Selection reveals the pedagogical objective

The nine-count family omits 3+3+3 and concentrates on the four rotations of one three and three twos. Mathematically, 333 is another ordered 2/3 composition of nine. Its omission makes musical sense as a selected exercise family: three equal groups do not create the same additive asymmetry. “Every permutation” should therefore mean every ordering within the selected family, not every possible partition of the number.

Page 62 extends the procedure to 10, 11, 12, 13, and beyond. It also transfers the bodily claps to a drummer’s bass drum, subsidiary positions to hi-hat if desired, and the vocal variation to the hands. The printed matrix is a finite demonstration of an extensible coordination procedure. [Rhythm, p. 62](#).

7. Chapters 4 and 5: preserve form and cycle identity

A recording introduces a larger reference

Chapter 4 asks the learner to work against a recording with a steady pulse and a simple repeated structure, such as eight-bar phrases or a twelve-bar blues. Continuous counting in threes, fives, sevens, or nines must coexist with the recording’s original pattern. The task now includes keeping one’s place in the form, not merely producing a local cross-rhythm. No particular recording is supplied by this chapter. [Rhythm, p. 63](#).

Consider continuous quarter-note threes over 4/4. The local three-cycle and bar meet after 12 beats. But an eight-bar form lasts 32 beats, so all three references return together after $\text{lcm}(3, 32) = 96$ beats: three complete forms. Over a twelve-bar, 48-beat blues, threes already align with the next formal beginning. Fives over a 32-beat form require 160 beats for the full return. These are analytical examples; density must be specified before using such numbers.

The musical demand is to maintain a reference that may have no immediate coinciding accent in the foreground. That anticipates an improviser preserving the harmonic/formal route of *New Nine* while generating independent surface material.

Tala is more than an integer

Chapter 5 gives the cycle a gestural and timbral identity. It introduces matra, sam (spelled SUM), khali, bols, and theka, and illustrates seven named cycles: Ektal, Teen Tal, Dadra, Rupak, Kaharwa, Jhaptal, and Jhumbra. The prose links khali with a lighter percussion sonority, so a region of the cycle is differentiated through sound as well as count. [Rhythm, pp. 64–67](#).

Cycle as presented	Count	Internal grouping / notable gesture
Teen Tal	16	4+4+4+4; claps 1, 5, 13; wave 9
Dadra	6	3+3
Rupak	7	3+2+2; begins with wave; claps 4 and 6
Kaharwa	8	4+4
Jhaptal	10	2+3+2+3; claps 1, 3, 8; wave 6
Jhumbra	14	3+4+3+4; claps 1, 4, 11; wave 8
Ektal	12	The book's grouping/gesture display requires qualification

The Ektal display on p. 64 differs from David Courtney's conventional account: six two-matra divisions with the clap/wave sequence clap, wave, clap, wave, clap, clap. The book instead draws 4+4+2+2 and places its wave symbols differently. A modern teaching edition should preserve the photograph and explain the discrepancy rather than silently present it as an authoritative universal Ektal scheme. [Rhythm, p. 64](#); [Courtney, Ektal](#).

This is a localized issue in an adapted teaching document. It does not invalidate Ellis's central use of a recurrent cycle, marked beginnings, and differentiated internal positions. Nor should the book's broad North/South Indian generalizations be treated as a complete account of those traditions.

The hand is a positional memory device

Page 67 diagrams sixteen successive thumb-contact stations on the left hand. This allows the player to track position in a cycle while producing a different vocal sequence. Ellis connects the device with forthcoming tihais and difficult cross-rhythms, then sends the reader back to earlier exercises while keeping Teen Tal. The learning path loops back on itself: a newly learned reference system changes the meaning of familiar exercises. [Rhythm, p. 67](#).

For analysis, the important distinction is between knowing how many events have occurred and knowing where one is in a musically differentiated cycle. An undifferentiated pulse supplies the former only indirectly. Gestures and locations furnish landmarks for the latter.

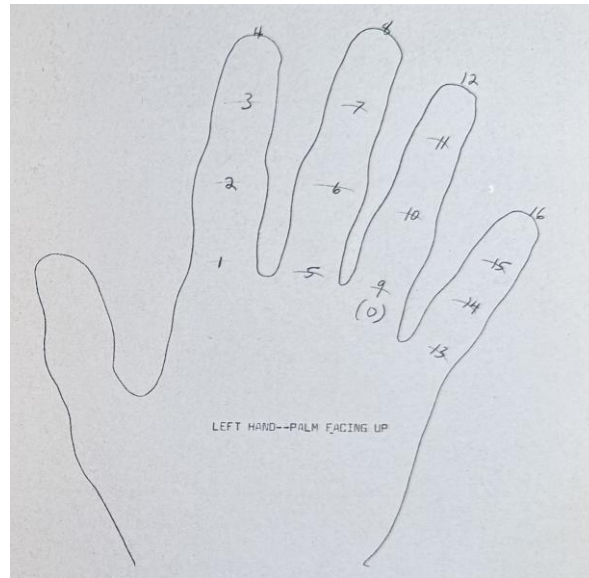


Figure 10. The sixteen-position hand diagram provides a concrete cycle-tracking procedure. Photograph detail: Rhythm p. 67, IMG_5854, right.

8. Chapters 6 and 7: silence and continuous independence

Syncopation studies remove the audible scaffold

Chapter 6 credits exercises taught by Rao and expanded by Ellis. Its complete extent is now visible: **27 lettered pattern families**, each in three written duration versions, for **81 nominal versions**. The earlier partial count through p. 75 cannot describe the whole chapter. [Rhythm, pp. 68–78](#).

Family	Lettered patterns	Count	Three-rate versions
Fours	A–D	4	12
Threes	A–D	4	12
Fives	A–G	7	21
Sevens	A–L	12	36
Total		27	81

The later seven-pattern pages add E–L, eight families and 24 versions. Several versions occupy more than one staff; the count is by lettered family and written rate, not by number of staves.

After a sounding seed, some exercises remove nearly all subsequent attacks. Using 1 for an attack and 0 for a silent equal position, four’s A includes 0101 cells and four’s B 0001; five’s A uses 00001, and seven’s A 0000001. These masks describe selected recurring portions, not a transcription of the entire etudes. [Rhythm, pp. 69, 71, 74](#).

A dense stream supplies frequent audible timing information. With most attacks removed, the performer must preserve the unsounded interval, the next melodic position, the bodily cycle, and

the re-entry point. This explains the studies' etude function. The pitches retain a longer trajectory while the surface becomes sparse; the task exceeds counting an unusual meter aloud.

The connection to p. 24 is direct. One omitted downbeat becomes a more extensive practice of maintaining structure without sounding every position. The connection forward to tihais is equally clear: a secure entry after silence is necessary when a phrase must begin at a chosen point in a cycle. This developmental reading is a pedagogical inference from the exercise sequence.

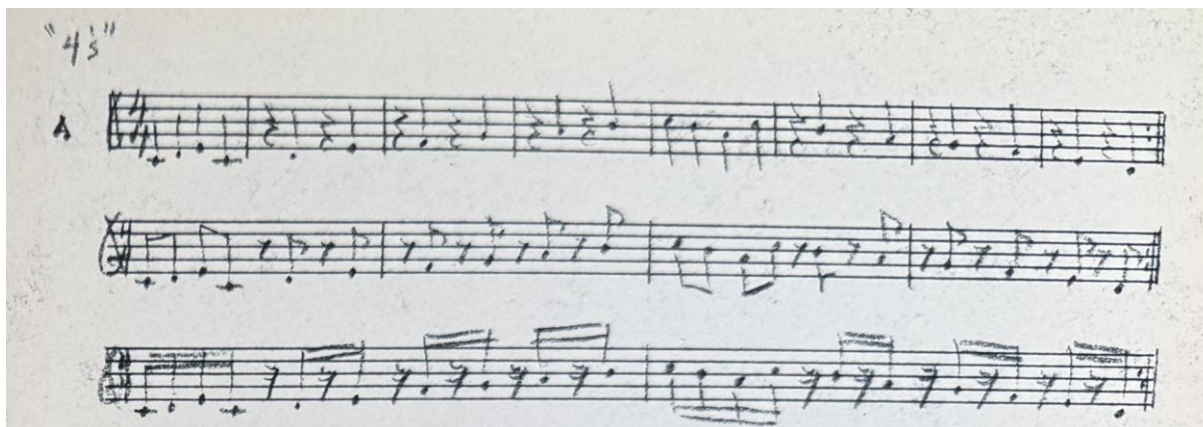


Figure 11. Four's A: dense seed material gives way to sparse attacks in three written rates. Photograph detail: Rhythm p. 69, IMG_5855, right.

Advanced counting tolerates noncoincident barlines

Chapter 7 asks the learner to keep the indicated clapping ground, speak another count cycle, then double and quadruple the count without changing the claps. It explicitly permits continuing when the barlines do not coincide; calculating the return is optional. Ellis is training fluency in coexistence, not requiring a player to wait mentally for a least-common-multiple event. [Rhythm, pp. 79–83.](#)

Ground	Spoken cycles	Written ground variants	Charts
3	2, 4, 5, 7	1	4
4	3, 5, 7	1	3
5	2, 3, 4, 7	2	8
7	2, 3, 4, 5	3	12
Total	15 directed pairings		27

The 27 charts at three densities give another 81 nominal conditions. This is a separate count from the 81 syncopation versions. The ground includes grouped claps and subsidiary positions; it should not be flattened into an audible metronome attack at every smallest count.

The last page again transfers the coordination to drums, foot tapping, instrumental playing, improvisation, and the talas already learned. The practice material can be generated by combining earlier melodic patterns with the new independent ground. [Rhythm, p. 83.](#)

The distinction from Chapter 8 is fundamental. Chapter 7 allows cycles to proceed on their own recurring lengths. Chapter 8 constructs a specified number of equal attacks inside a shared span. Chapter 9 then designs an endpoint. Together they train continuity, proportion, and arrival.

9. Chapter 8: constructing exact proportional rhythm

The five-stage construction

The opening superimposition chart is an algorithm. To obtain m attacks against n beats, the learner keeps n beats, subdivides each into m equal positions, recounts the resulting mn positions in groups of n , sounds only the first position of each group, and finally numbers the m surviving attacks. Each row is a different representation of the same timing lattice. [Rhythm, pp. 84–85](#).

The method first makes the timing explicit, then removes the supporting syllables. This resembles the syncopation chapter's withdrawal of frequent attacks, but its purpose here is exact proportional placement. The temporary m subdivisions per beat are the scaffold; they are not the final m -against- n rhythm.

For an n -beat span, the target onsets in beat units are:

$$t(j) = jn/m, \text{ for } j = 0, 1, \dots, m - 1.$$

The next occurrence at $t = n$ belongs to the following span. Keeping that endpoint separate prevents double-counting a shared arrival as an extra note in the preceding cycle.

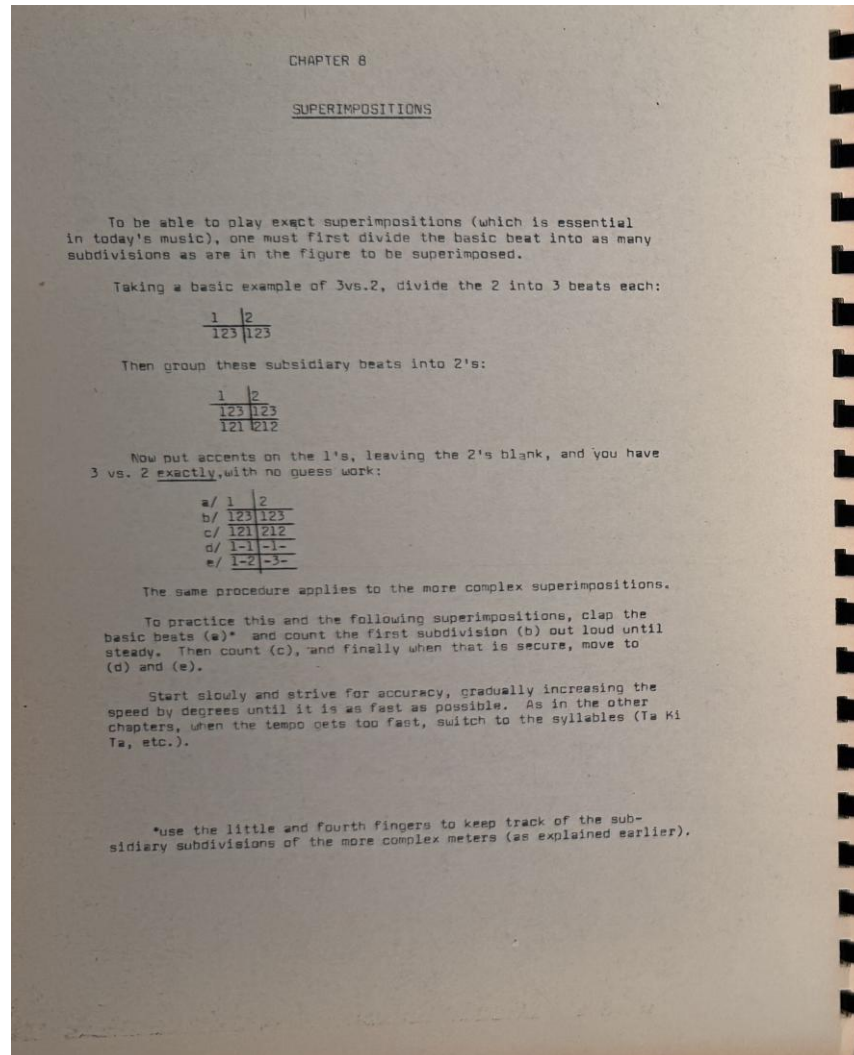


Figure 12. The five-stage construction converts a fully sounded subdivision grid into the desired proportional attacks. Rhythm p. 84, IMG_5863, left.

Seven against four, exactly

The p. 87 seven-against-four grid uses 28 equal micro-units. The ground begins at 0, 7, 14, and 21; the seven target attacks at 0, 4, 8, 12, 16, 20, and 24. The joint return is at 28. Dividing by seven gives the target positions in quarter-note beat units: 0, 4/7, 8/7, 12/7, 16/7, 20/7, and 24/7. [Rhythm, p. 87](#).

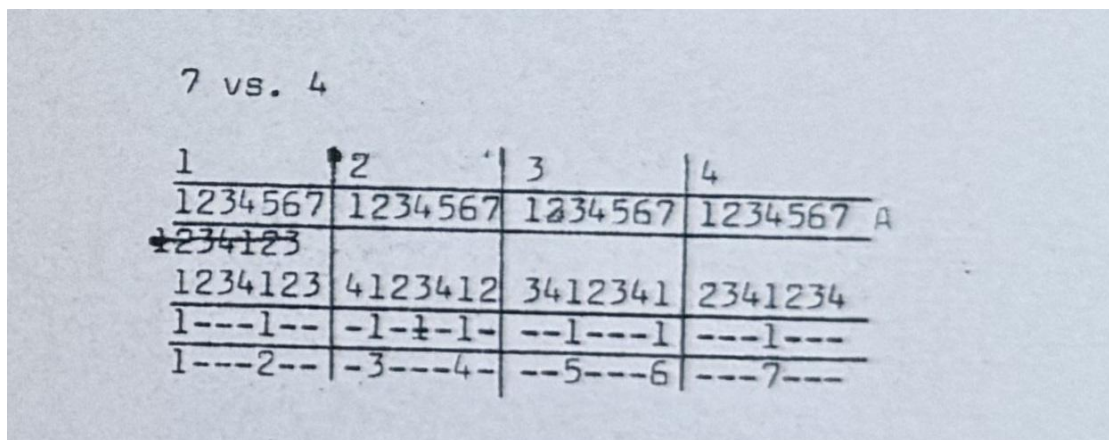


Figure 13. Seven against four, including a corrected counting line. Rhythm p. 87, IMG_5864, right.

Four ground beats



Seven equal attacks

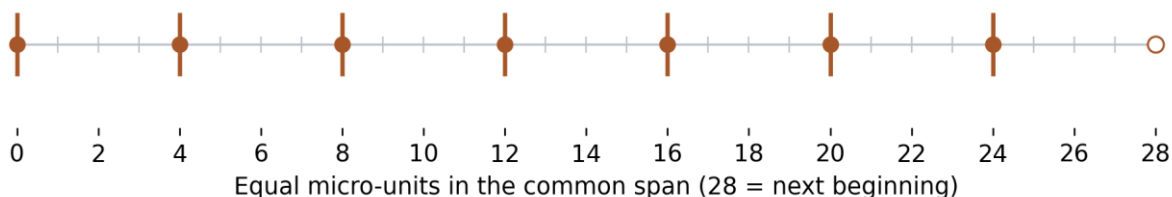


Figure 14. Derived 28-unit onset lattice for seven equal attacks in four beats. The hollow terminal marks denote the next common start. This schematic explains the p. 87 relation; it is not an Ellis illustration.

The two attack streams contain ten distinct onsets in the half-open span: seven plus four minus their one shared beginning. A composite rhythm can be heard from that union, but a performer must also be able to recover either stream as an independent reference.

The matrix is extensive, and its redundancy is useful

The matrix considers ordered pairs from 2 through 9: 64 cells. Twenty unison or integer-multiple cases are set aside. The remaining **44 nontrivial ordered cases** include 40 worked grids and four reduction-only references. Six of the 44 ratios reduce to smaller terms, leaving 38 primitive ordered ratios, or 19 reciprocal pairs. [Rhythm, pp. 84–92.](#)

Ground n	Listed target m
2	3, 5, 7, 9
3	2, 4, 5, 7, 8
4	3, 5, 6, 7, 9
5	2, 3, 4, 6, 7, 8, 9

Ground n	Listed target m
6	4, 5, 7, 8, 9
7	2, 3, 4, 5, 6, 8, 9
8	3, 5, 6, 7, 9
9	2, 4, 5, 6, 7, 8

Six against four and four against six receive grids even though they reduce to 3:2 and 2:3. Four other reducible entries point back to simpler cases. Showing a larger unreduced span is not a mathematical error. It can preserve the ground length and count vocabulary that the learner needs to perform.

If $g = \gcd(m, n)$, a minimal common grid has mn/g cells, whereas Ellis's construction uses mn . The relative attack pattern repeats g times within the full n -beat span. For 6:4, 3:2 occurs twice. The number of distinct combined attacks is $m+n-g$ within the half-open span. These derived results explain the matrix's structure while preserving the pedagogical reason for its chosen labels.

Independence culminates in hearing a composite

Page 85 asks the player, after controlling the separate components, to perform them with two hands and hear them together as a single complex. Ellis does not seek permanent perceptual separation. He trains access to both separate layers and their combined rhythmic shape. This is an important practical observation about hearing, and one reason the dissertation's statement that he does not discuss aural perception needs qualification. [Rhythm, p. 85](#); [Fenlon, p. 113](#).

The closing reciprocal exercise on p. 92, credited to Rao, keeps a subsidiary quarter-note grid fixed while alternating four groups of three and three groups of four. The common twelve-unit span is reinterpreted through different higher-level references. The underlying clock does not accelerate. What changes is the grouping and the role assigned to it.

10. Chapter 9: tihais and the arithmetic of arrival

A cadence has a target, not merely a period

Ellis defines a tihai through triple repetition whose final note arrives on SUM/ONE. The preceding exercises prepare the ability to begin a figure anywhere in the cycle. That makes the chapter a culmination of phase control: the player can now choose a beginning and shape the intervening time in relation to a known arrival. [Rhythm, p. 93](#).

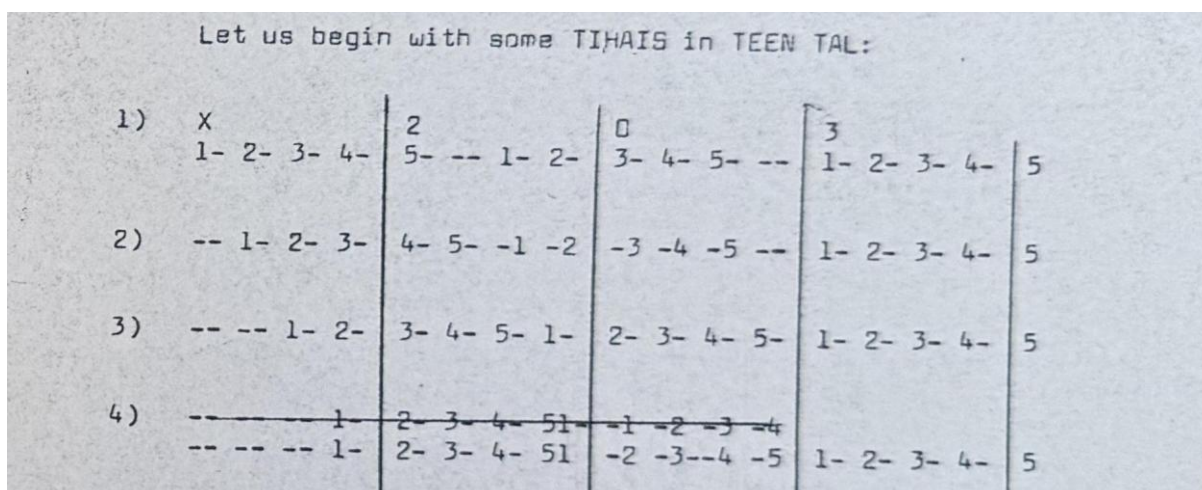


Figure 15. The first four numerical Teen Tal constructions include a corrected row and half-beat offsets. Rhythm p. 93, IMG_5867, right.

The most reliable general formula uses the **last attack**, rather than an assumed duration after it. Let s be the first onset, P the interval between successive starts of the repeated phrase, and ℓ the time from the phrase's first attack to its last. Then:

$$t(\text{final}) = s + 2P + \ell.$$

For a cycle of N units, a return to a downbeat satisfies $s + 2P + \ell \equiv 0$ modulo N . To reach a specifically chosen future downbeat, use $s + 2P + \ell = qN$. The equality specifies which return; the congruence alone does not.

Four actual constructions in Teen Tal

In the first four p. 93 examples, each phrase contains five attacks spaced one quarter note apart, so $\ell = 4$. The starting point moves while the final attack remains at elapsed time 16:

Example	First onset s	Start interval P	Three phrase starts	Final attack
1	0	6	0, 6, 12	16
2	1	5.5	1, 6.5, 12	16
3	2	5	2, 7, 12	16
4, corrected row	3	4.5	3, 7.5, 12	16

These values are a transcription of the timing relationships visible in the numeric rows. In example 2 the second phrase lies on half-beat positions. In example 4 the corrected replacement row is used. The common last phrase begins at 12 in every case. Delaying the first entry shortens the earlier onset intervals, while preserving the final approach to the downbeat.

The time from a phrase's last attack to the next phrase's first is $P - \ell$: 2, 1.5, 1, and 0.5 beats. Calling every five-note phrase a mandatory five-beat block would misdescribe the last case and could produce a fictitious "negative rest." Five attack positions spaced one beat apart span four elapsed beats. The terminal note's duration is a separate matter.

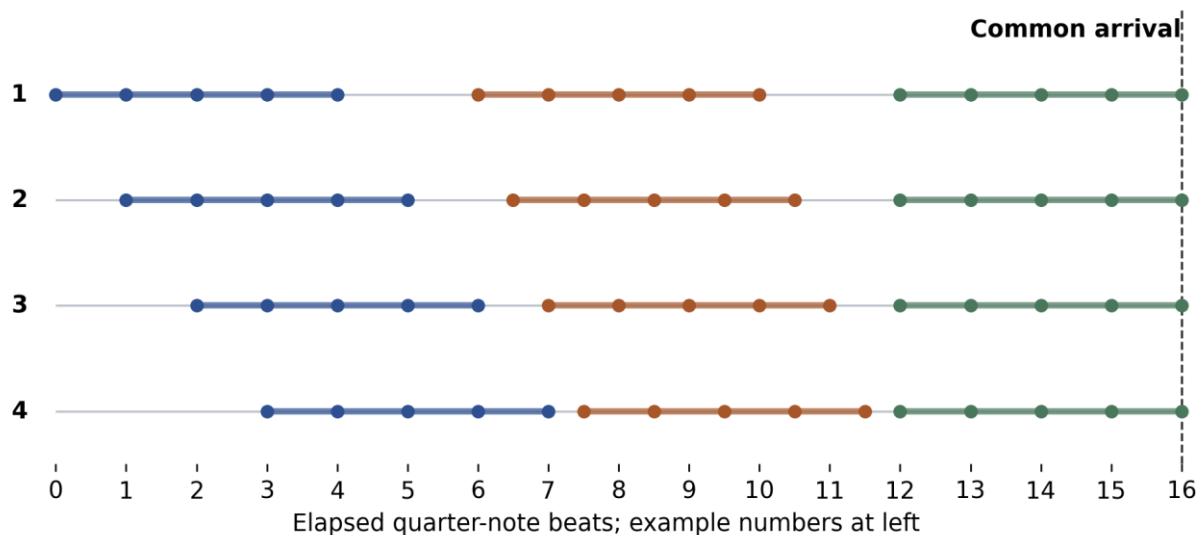


Figure 16. Derived timing of the first four p. 93 tihais. Each colored segment spans the five attacks of one statement; all versions converge at elapsed beat 16.

Examples 5 and 6 offer another distinction: a timing pattern can be counted through seven labels or articulated as 4+3. Changing count vocabulary need not change the actual attacks. Number sequences are representations of a musical object, not necessarily different objects in themselves.

Inclusive counting on page 97

Ellis explicitly instructs the reader to include the final beat when calculating a tihai. Two 5/4 bars plus the arriving downbeat contain **eleven counted positions but ten elapsed quarter-note intervals**. This is the endpoint convention behind the arithmetic.

For a three-attack cell with $\ell = 2$, the two solutions shown can be represented as follows:

Construction	s	P	Calculation	Arrival
Two initial silent beats; contiguous three-attack statements	2	3	$2 + 2 \times 3 + 2$	10
Begin immediately; one silent slot between statements	0	4	$0 + 2 \times 4 + 2$	10

An alternative slot-based formula is useful when its assumptions hold. If a cell has k equally spaced attacks separated by u and occupies k full u -slots, with an added gap r between statements (r measured in the same time units as s and u), the last attack is $s + 3ku + 2r - u$. The subtracted u removes the duration after the final attack. The more general $s + 2P + \ell$ form avoids imposing a terminal slot where the notation does not support one.

This is consistent with the inclusive endpoint convention described by tabla specialist David Courtney and independently illustrated by Peyman Nasehpour. Courtney's account also distinguishes a threefold phrase from a nested chakradar structure; the comparison clarifies terminology without replacing Ellis's actual examples. [Courtney, The Cadenza in North Indian Tabla](#); [Nasehpour, Mathematics in the Indian Rhythm System](#).

Stretching, nesting, and melodic invention

The lower p. 97 examples preserve a three-eighth-note cell while expanding a two-bar span through 3/4, 4/4, 5/4, and 6/4. In the displayed construction, increasing each bar by one quarter adds two eighth-rest slots to each of the two internal gaps. The full two-bar span grows by four eighth units. The phrase's attack span remains one quarter-note beat; its onset interval becomes $M-0.5$ quarters in $M/4$, giving a final arrival of $2M$ quarter-note beats. This describes these examples, not a universal rule that adding any two rests produces a fixed extension.

Page 94 asks the learner to invent a melody for a first phrase, repeat that same figure at the calculated locations, sing it while keeping tala, and only then transfer it to an instrument. The chapter is therefore a miniature method of composition and performance preparation. The arithmetic determines placement; the student supplies musical content.

The Western-notation examples expand from a twelve-quarter Ektal span to a two-cycle Dadra span and a much longer Teen Tal construction. Page 98 explicitly identifies tihais within tihais. The initial p. 93 use of "chakradar tihai" is broader than the nested sense described by Courtney and DigiTabla, but the nested idea itself is present later in Ellis's text. [Rhythm, pp. 93–98](#); [DigiTabla, Chakradar](#).

Rao's thirteen-beat example and collective resolution

Page 96 supplies an advanced Jai Tal example credited to Hari Har Rao and to the April 1965 Ellis–Rao article, "An Introduction to Indian Music for the Jazz Musician." Its written cycle is $4+4+2+3$ quarter-note beats, repeated through three cycles before the final arrival: 39 elapsed quarter-note beats. The book thereby preserves a visible connection between collaborative published teaching and the later assembled method. [Rhythm, p. 96](#); [Fenlon, pp. 76–77](#).

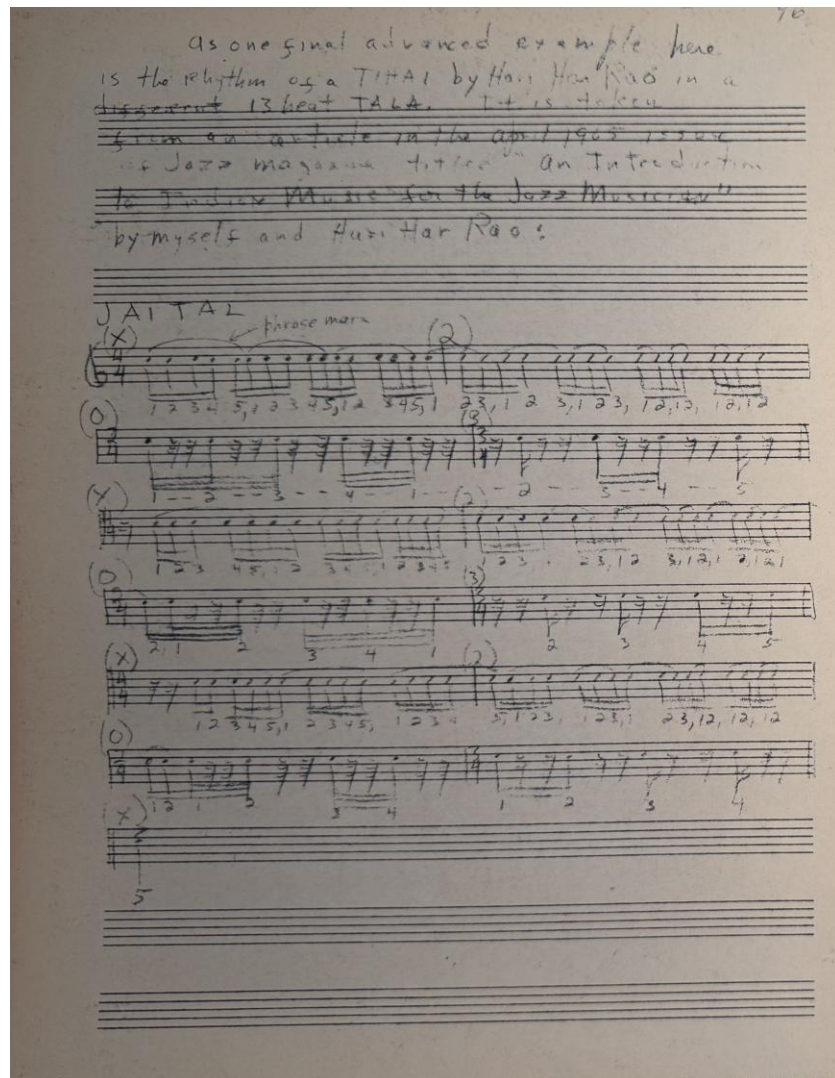


Figure 17. The thirteen-beat example carries an explicit Rao/article attribution. Rhythm p. 96, IMG_5869, left.

Page 98 then describes performers developing different tihais simultaneously, apparently losing orientation before meeting on sam. The shared arrival releases tension. This is performance theory: exact control supports an expressive impression of danger and recovery. It also explains why a calculated cadence should not be evaluated only by how impressive its arithmetic looks on paper.

11. Chapters 10 and 11: preserve a span while changing its interior

Combining whole talas

Chapter 10 places Teen Tal's sixteen counts inside the same elapsed period as Ektal's twelve, then reverses the roles. The first relation is $16:12 = 4:3$; the reverse is $3:4$. The chapter preserves the cycle's duration, not the individual count's duration. [Rhythm, p. 99](#).

For common duration T , a minimal shared grid has 48 ticks: the twelve-count stream advances every four ticks, the sixteen-count stream every three. Their attacks coincide at 0 , $T/4$, $T/2$, and $3T/4$

within the cycle, followed by the next joint beginning at T. That is four shared onsets in the half-open cycle, not five.

CHAPTER 10

COMBINING TALAS

An Indian musician will occasionally combine one TALA with another by superimposing a new TALA over the basic one being played.

For example, the group may be playing in EKTAL, and suddenly the drummer will play TEEN TAL fitted into exactly the same period of time!

1	2	3	4	5	6	7	8	9	10	11	12	= EKTAL (360°/64)				
Dhin	Dhin	DaGe	trkt	tin	Na	Ka	tin	DaGe	trkt	Dhin	Na					
III	III	III	III	III	III	III	III	III	III	III	III					
DhaDn	Dn	Dha	DhaDn	Dn	Dha	DhaDn	tin	Ta	Ta	Dn	Dha					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	= TEEN TAL
Dha	Dn	Dn	Dha	Dha	Dn	Dn	Dha	Dha	tin	tin	Ta	Ta	Dn	Dn	Dha	
III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	
Dhin	Dhin	DaGe	trkt	tin	Na	Ka	tin	DaGe	trkt	Dhin	Na					

This is 16 vs. 12, which is really 4 vs. 3 on a larger scale.

The same thing could happen in reverse, with the group playing TEEN TAL and the drummer going into EKTAL.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	= TEEN TAL
Dha	Dn	Dn	Dha	Dha	Dn	Dn	Dha	Dha	tin	tin	Ta	Ta	Dn	Dn	Dha	
III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	
Dhin	Dhin	DaGe	trkt	tin	Na	Ka	tin	DaGe	trkt	Dhin	Na					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	= EKTAL
Dha	Dn	Dn	Dha	Dha	Dn	Dn	Dha	Dha	tin	tin	Ta	Ta	Dn	Dn	Dha	
III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	
Dhin	Dhin	DaGe	trkt	tin	Na	Ka	tin	DaGe	trkt	Dhin	Na					

This is 12 vs. 16, or 3 vs. 4 on a larger scale.

The momentary effect is that one member of the group is suddenly playing faster or slower than the rest. However, in India it is all done very precisely so that the original TALA, its structure and speed are never forgotten.

By using the superimposition charts of Chapter 8, any TALA may be combined with any other.

Figure 18. Whole-cycle superimposition: sixteen counts and twelve counts occupy the same period. Rhythm p. 99, IMG_5870, right.

Ellis explicitly discusses the apparent acceleration or deceleration of one performer while the original cycle remains understood. He then transfers the effect to a jazz drummer who seems to change tempo or meter and can return at will. In Fenlon's terms this is equal-duration superimposition, but the relevant boundary may be an entire tala rather than one printed Western bar. The shared span is the underlying principle.

Immediate switching is a separate skill

Chapter 11 first holds a metronomic beat and moves through one to nine equal subdivisions. It then asks for unpredictable changes, such as 3→7→4→5, with evenness from the instant of each change. As the metronome becomes faster, the highest subdivisions can be omitted. The objective is accurate conversion, not merely maximum note speed. [Rhythm, pp. 100–101](#).

SWITCHING SUBDIVISIONS

A very good practice idea is to test yourself against a metronome or recording and switch subdivisions of the beat.

$\text{♩} = \text{constant}$

First start out in quarter notes, then shift immediately to eighth notes, then eighth note triplets, and so on up to 9.

Obviously the 9 subdivision can only be executed at a relatively slow tempo, so as you increase the speed of the exercise (by setting the metronome higher), leave it out, and as the tempo gets even faster drop the 8, then 7, etc.

Next practice skipping at random from 3's to 7's to 4's to 5's, and so on.

The trick is to make sure that each subdivision is completely accurate and even the instant you change.

You should next try the same thing, spreading it over 2 beats instead of one:

Then do it over 3, 4, 5, 6, 7, 8, and 9 beats (by changing the time signature to 3/4, 5/4 etc., and doing 2, 3, 4, 5, 6, 7, 8, and 9 beats in each bar.

Figure 19. Serial and unpredictable subdivision changes, followed by the same operation over longer spans. Rhythm p. 100, IMG_5871, left.

For a one-second reference span, four equal events have 250 ms spacing and seven have approximately 142.857 ms spacing. A correct switch takes the new spacing immediately; it does not accelerate gradually between them. Extending the same operation over two, three, or more beats changes its perceived scale. What began as subdivision practice can become a new tactus or metrical interpretation over a longer constant span.

S.S.: constant bar, variable beat, flexible route

The recovered S.S. example makes the invariant unmistakable: **each bar = MM 60**. The bar lasts one second while the number of quarter-note beats changes. The template contains three bars of 4/4, two of 6/4, six of 3/4, and two of 5/4: **thirteen equal-duration bars**. [Rhythm, pp. 101–102](#).

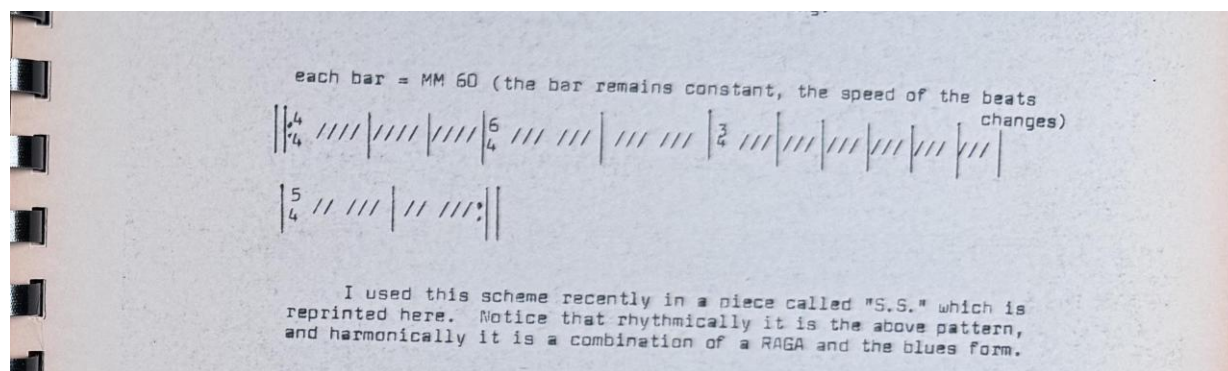


Figure 20. The S.S. template explicitly keeps the bar constant and changes the speed of its beats. Rhythm p. 101, IMG_5871, right.

Area	Meter	Number of bars	Quarter-note rate at bar = 60/min	Literal span
A	4/4	3	240/min	3 s
B	6/4	2	360/min	2 s
C	3/4	6	180/min	6 s
D	5/4	2	300/min	2 s
One stated traversal		13	Variable	13 s

The thirteen-second value is a derived duration for an uninterrupted traversal at the stated marking. Repeats, cued extensions, and improvisation can change the performed duration. Ellis calls the harmonic conception a combination of raga and blues form. That description does not authorize silently changing the printed thirteen bars into a conventional twelve-bar blues.

The score also offers three improvisational routes: stay on A and cue B, C, D; follow the chart as written; or jump among areas. The relation to the practice chapter is exact. Stable repetition, predetermined change, and unpredictable change become formal choices in a composition. The lesson's variation of density develops into the ensemble's variation of route. [Rhythm, p. 102.](#)

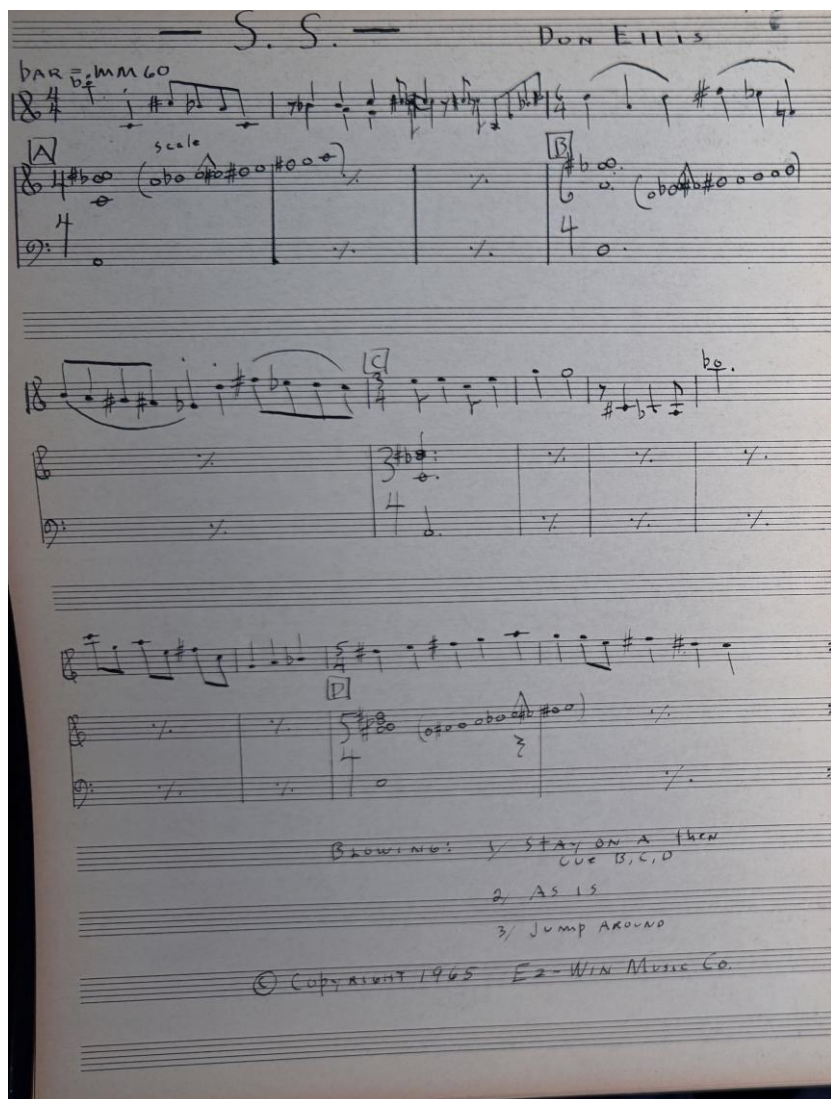


Figure 21. S.S. supplies melody, pitch resources, bass foundations, and three routes for “blowing.” The visible copyright is 1965. Rhythm p. 102, IMG_5872, left.

The initials should remain S.S. here. This page does not establish that the title expands to *Strawberry Soup*. Its 1965 imprint, particular thirteen-bar scheme, and distinct score must be respected. The dissertation’s later *Strawberry Soup* analysis offers a valuable comparison of methods, not permission to identify two works from shared initials.

12. Chapter 12: rhythmic rows become songs and compositional designs

A fixed nineteen can contain different internal structures

Ellis gives three nineteen-unit rows:

$$A = 3+3+2+2+2+1+2+2+2 = 19$$

$$B = 2+2+2+3+3+1+3+3 = 19$$

$$C = 5+5+3+2+2+2 = 19$$

The total remains fixed while the number and placement of group boundaries change. Their zero-based onset sets make the difference precise:

Row	Group onsets before the common return at 19
A	0, 3, 6, 8, 10, 12, 13, 15, 17
B	0, 2, 4, 6, 9, 12, 13, 16
C	0, 5, 10, 13, 15, 17

Fenlon already quotes these rows and discusses the singleton one and the larger groupings. The fresh reading does not “discover” an issue absent from the dissertation. It clarifies the compositional role: a fixed cycle can accommodate mobile internal articulation, and Ellis expressly permits combinations that seem musically pleasing. [Rhythm, p. 103](#); [Fenlon, pp. 110–113](#).

The claim that complex meters can be decomposed into twos and threes is a useful construction principle. It is not a prohibition on hearing a five as one larger group, retaining a four without an internal accent, or using an isolated one within an otherwise longer cycle. Arithmetic decomposition, mnemonic syllables, and phrase articulation are different levels of description.

Sweet Nineteen makes the lesson public

Sweet Nineteen is a fast 19/4 song with melody, chord symbols, lyrics, and a 1965 imprint. Its words invite movement and make the act of learning the count part of the song. Counting can become a rhythmic hook, a lyric, and a social invitation. The sheet therefore supports Ellis’s stated ambition to make unfamiliar meters available beyond specialist practice rooms. [Rhythm, pp. 103–104](#).

The notated nineteen quarter units need not be experienced as nineteen equally salient beats. The accents, melodic contour, harmonic changes, and spoken numbers encourage larger groups. The score’s mixture of numerical language and actual song also prevents the method from ending in arithmetic abstraction. Its intended result includes music that listeners can participate in bodily.

Ellis calls the piece a rock-and-roll song and says he also uses it instrumentally as a jazz tune. Those are direct counterexamples to an absolute claim that *Rhythm* avoids jazz-specific terms or concepts. The broad audience and the specific applications coexist without contradiction. [Rhythm, p. 103](#).

Don Ellis

104

SWEET NINETEEN

1. Let's go and see this new dance we heard a- bout.
 2. You can not dance it if you have got the oput.

They say its fun and some-thing quite new to do.
 But if you want to all you need do is Emaount.

One, two, three, four, five; one, two, three, four, five; one, two, three, ONE MORE TIME!

One, two, three, four, five; one, two, three, four, five; 1, 2, 3, That's it. NOW!

Let's go and see this new dance we heard a- bout.

It's nine- teen beats long. Come on and join the fun.

Come on, come on, come on, come on, come on, you can do what-ever you want!

Second Chorus (out):
 Just move your feet in time to the music's beat,
 And let your body follow your own 2 feet.
 YOUR PARTNER CAN DO WHATEVER TAKES FEET BEST.
 Switch partners often. Now you are all elite.

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 5436 AVENUE
 NORTH HOLLYWOOD, CALIF. 91601

Figure 22. Sweet Nineteen joins a nineteen-quarter cycle to lyrics about counting and dancing. Rhythm p. 104, IMG_5873, left.

Hot Todi: duration count is not attack count

The 27/16 example on p. 105, headed *Hot Todi*, pairs a pitch collection with a rhythmic structure. Its staff version of the scale reads C–D $\flat$ –E $\flat$ –F $\sharp$ –G–A $\flat$ –B–C. As elsewhere in the book, that pitch collection alone does not specify all the grammar of a traditional raga. [Rhythm, p. 105](#).

The rhythm's attack durations, measured in sixteenth-note units, can be read as:

(4,4); (1,1,1,1,1); (4); (1,1,1); (2,2); (2,1).

There are **15 attacks**, spanning **27 sixteenth units**, with six marked larger segments totaling **8+5+4+3+4+3**. These are three different counts of one passage. The meter's numerator does not tell us the number of notes, and the number of notes does not tell us the grouping hierarchy.

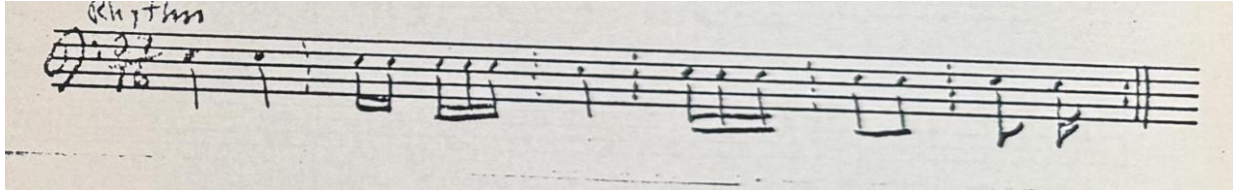


Figure 23. Hot Todi's rhythm, enlarged from the photograph. The dotted divisions support the six-segment reading discussed above. Rhythm p. 105, IMG_5873, right.

This is a concise compositional recipe: define a temporal frame, articulate a characteristic attack pattern, supply a pitch resource, and explore what music that combination generates. The economy of the notation should not be mistaken for a lack of compositional information.

The thirty-five-unit row has a growth design

The final 35/8 example is not a randomly long list. It is written as 23, 223, 2223, 22223, 3. At the next hierarchical level:

$$5 + 7 + 9 + 11 + 3 = 35.$$

Each of the first four groups adds one two before its terminal three. Those expanding groups total 32; the final three completes the thirty-five-unit cycle. Expanded fully, the row contains ten twos and five threes. The design creates growth, expectation, and closure. Reordering the same values would preserve duration while changing that trajectory. [Rhythm, p. 105.](#)

Ellis's instruction is to compose cycles and pieces and discover their particular characters. "Row" here describes a usable ordered temporal design. The page does not establish a twelve-tone-style serial system governing every parameter or every composition.

13. The supplementary jazz examples: groove, route, and notation

New Nine is a modular performance design

The composer's note specifies 9/4 grouped 2+2+2+3 at a brisk tempo. The chart contrasts a strong chordal entrance and drum response with a quieter counterpart and tabla response, then supplies vamping, melody, cues, blues choruses, percussion spaces, and a raga/scale resource. Its headings are operational instructions for an ensemble. [Rhythm, pp. 106–108.](#)

NEW NINE 107
DON ELLIS

A (v. sec.) DRUMS

fff G♭ A7 E7 D♭ A7 F♯ A7

B TABLA

p

C VAMP — TABLA ONLY

D AD-LIB ON MELODY

p VAMP CONTINUE

E VIBES CUE W. TPT

F *mf*

G (VAMP CONTINUE)

DRUMS FILL (UNIS)

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Figure 24. New Nine integrates additive meter with dynamic contrast, percussion roles, a continuing vamp, and melodic material. Rhythm p. 107, IMG_5874, right.

At least three structures can be distinguished. The 2+2+2+3 groove gives the recurrent temporal character. The pitch resource gives a field for melodic invention. The route through vamp, F, and two blues choruses organizes improvisation in larger units. A player can know the groove without knowing the route, or know the route while failing to sustain the groove. The chart therefore requires coordination across scales of form.

Page 108's "blowing" directions make that separation visible. They link a vamp, a lettered section, and two blues choruses, while other instructions cue return to D, percussion cadenzas, and ad-lib trumpet. The piece's identity includes decisions about who acts, when a section changes, and which material continues underneath. [Rhythm, p. 108.](#)

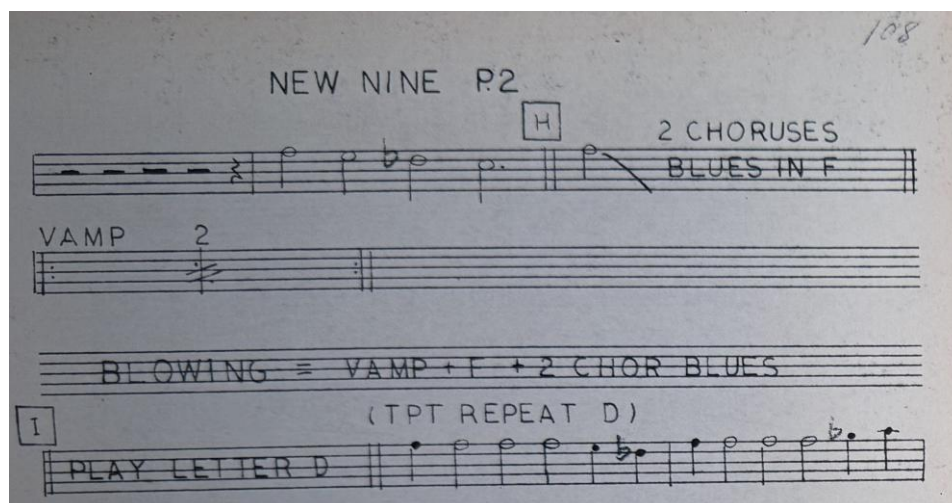


Figure 25. The improvisation route in New Nine: larger form is specified separately from the local groove. Rhythm p. 108, IMG_5875, left.

The dissertation lists *New Nine* in its *Live at Monterey* discography. That establishes its place in the recorded repertoire, but the photographed chart should not be assumed identical in every detail to a particular recording or orchestration. Its present analytical value lies in showing how exercises become an ensemble protocol. [Fenlon, pp. 176–177.](#)

Orientation demonstrates why barlines matter

Ellis says *Orientation* was originally written for big band. To make sight reading easier, its $7/8 + 9/8$ rhythm was written in $4/4$. He does not recommend the procedure except in emergencies because it destroys some of the original feeling. The photographed three-page example is a reduction of its main themes. [Rhythm, pp. 106, 109–111.](#)

The arithmetic is simple:

$$7/8 + 9/8 = 16/8 = \text{two bars of } 4/4.$$

The metric interpretation is not. The additive boundary comes after seven eighths—on the “and” of beat four in the first $4/4$ bar. The written $4/4$ barline falls one eighth later, inside the nine-eighth segment. Reinforcing that barline can displace the listener’s sense of where a new group begins even if every attack remains at the same elapsed time.

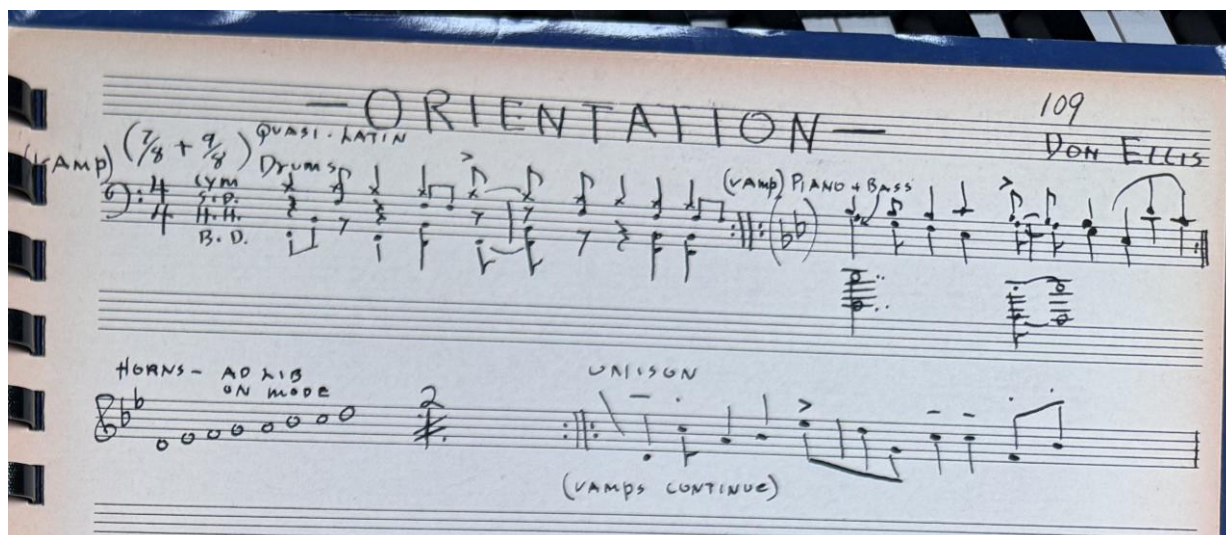


Figure 26. Orientation's opening retains the 7/8 + 9/8 annotation above its 4/4 notation and vamp instructions. Rhythm p. 109, IMG_5875, right.

Intended additive cycle: 7 + 9



Two notated 4/4 bars: 8 + 8

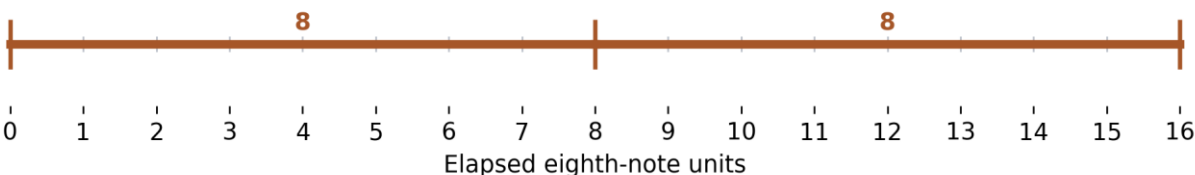


Figure 27. Derived boundary comparison. The two notations share the sixteen-eighth span but disagree at the internal boundary: 7 versus 8.

This is more than a notational curiosity. It identifies a practical tradeoff between immediate decoding and preservation of musical grouping. The body trained to feel unequal groups in Chapter 3 should resist the misleading regular boundary. A critical edition would therefore need to retain the intended grouping through meter, beams, accents, or an explicit performance note.

The reduction contains drum and bass/piano vamps, horn ad-lib on a mode, unison material, background modules, and later ensemble and solo instructions. The alternating 7+9 cycle is not automatically simultaneous polymeter; it is an additive succession. Independent layers require evidence from their respective parts. Fenlon's description of variation over bass lines provides a useful formal perspective on this material. [Rhythm, pp. 109–111](#); [Fenlon, pp. 34, 178–179](#).

14. 3:5:7: chamber music, an audible clock, and rational pitch

The metronome becomes part of the work

The closing excerpt is titled *3:5:7 for String Quartet, Percussion, and Metronome*, dated “Jan 65,” with a 1965 copyright imprint. Ellis specifies an audible metronome and permits amplification if necessary. One bar is marked at MM 40, corresponding to 1.5 seconds at the stated reference. The first and last score pages are reproduced; the interior of the work is intentionally omitted. [Rhythm](#), pp. 106, 112–113.

Figure 28. The opening of 3:5:7 combines an audible bar pulse, instrumental notation, and a ratio-based pitch key. Rhythm p. 112, IMG_5877, left.

Earlier in the book, the bodily pulse is a private aid to coordination. Here the reference clock is public instrumentation. It can be heard against the ensemble’s gestures and remains part of the dramatic design. The instruction to switch it off at the end makes its continuation or disappearance a compositional event.

The title alone should not be used to assign 3:5:7 to every simultaneous passage. The excerpt contains changing signatures and independent parts, and Ellis points to tihais in the final seven bars, but a complete bar-by-bar account requires the omitted interior score and a critical transcription of the dense ending. The available evidence supports analysis of the reference system, intonation plan, and cadential conception; it does not support inventing the whole form.

The “key signature” is rational, not equal-tempered

The string instruction presents a reference pitch and the ratios 25:24, 7:6, 6:5, 7:5, 3:2, 5:3, and 9:5. The ratios are directly visible. The following cents values are calculated for this report using $1200 \log_2(r)$. [Rhythm, p. 112](#).

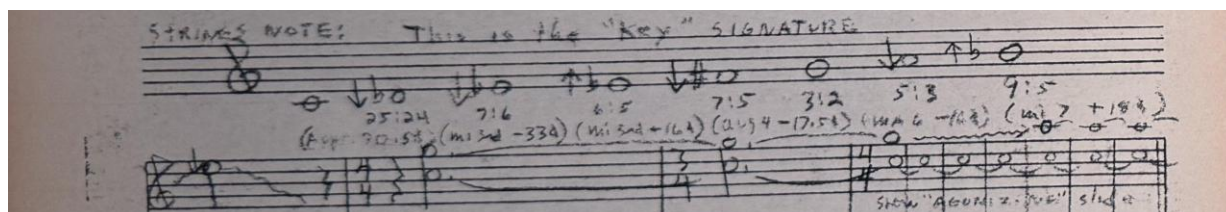


Figure 29. The ratio-based “key” signature, enlarged from p. 112. This is actual manuscript-derived notation in the photograph, not a newly generated score. IMG_5877, left.

Ratio to reference	Cents	Comparison with a nearby 12-tone equal-tempered interval
1:1	0.00	Unison
25:24	70.67	29.33 cents below a semitone
7:6	266.87	33.13 cents below a minor third
6:5	315.64	15.64 cents above a minor third
7:5	582.51	17.49 cents below a tritone
3:2	701.96	1.96 cents above a perfect fifth
5:3	884.36	15.64 cents below a major sixth
9:5	1017.60	17.60 cents above a minor seventh

The ratios involve the primes 2, 3, 5, and 7. They constitute a rational pitch palette, not a division of the octave into equal quarter tones. Even two intervals near the minor third, 7:6 and 6:5, are distinguished by almost 48.77 cents. A generic quarter-tone label would obscure the exact relationships the page supplies.

The pitch and rhythm domains share a concern with proportional relations, but their functions differ. A pitch ratio relates frequencies; a rhythmic ratio relates event rates or durations. The excerpt does not state a literal transformation that maps every rhythmic ratio into a corresponding pitch. The useful inference is broader: the book’s compositional horizon includes the design of intervallic as well as temporal relationships.

This provides a concrete bridge to Fenlon's discussion of Ellis's interest in intonation and his later *Quarter Tones* book, while preserving the distinction between rational intonation and an equal-tempered quarter-tone resource. [Fenlon, pp. 55–56](#).

Distributed tihais make closure an ensemble problem

The final page contains differentiated instrumental trajectories and a shared emphatic ending; p. 106 expressly directs attention to the tihais in its last seven bars. The significance is the distribution of controlled arrival among several players. The independent line is no longer a voice against the player's own hand. It is one part within a chamber ensemble, measured against an audible common reference. [Rhythm, pp. 106, 113](#).

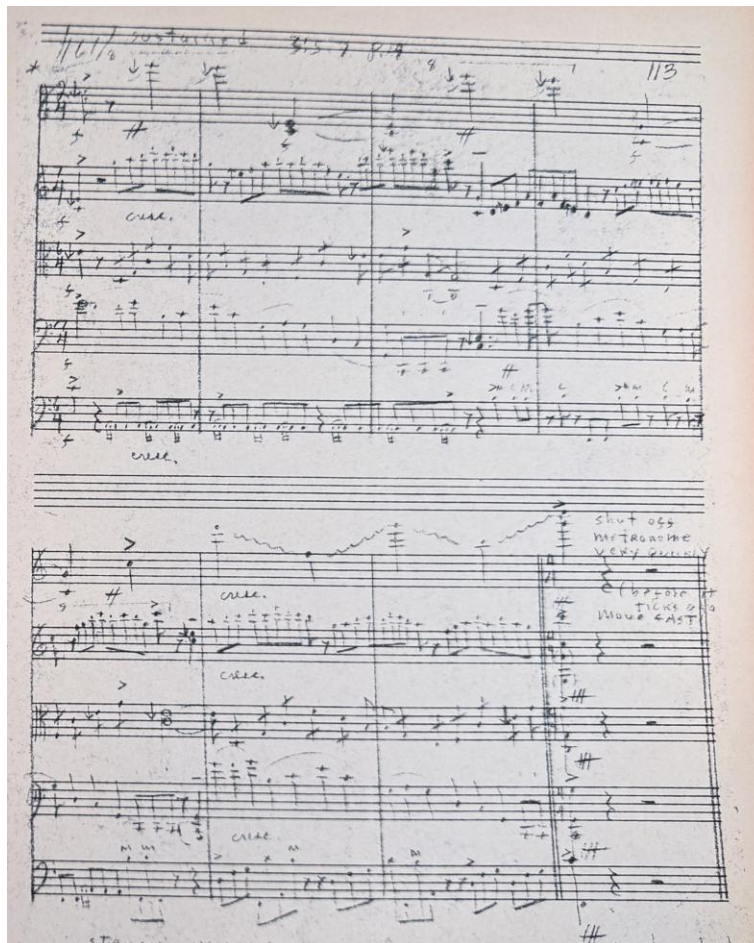


Figure 30. The final score systems of 3:5:7, identified by Ellis as containing tihais in the last seven bars. Photograph detail: *Rhythm* p. 113, IMG_5877, right.

The progression from Chapter 1 to this endpoint is consequential: private coordination becomes shared performance; a remembered pulse becomes an instrument; a calculated return becomes dramatic closure. That is a more revealing account of the book's ambition than listing its largest meter numerators.

15. Reconciliation with The Exotic Rhythms of Don Ellis

Retain the dissertation's taxonomy; add the practice procedure

Fenlon distinguishes straight-ahead and additive meters, superimpositions within and over barlines, and exact-multiple augmentation/diminution. He also explains how these categories intersect. They are analytical categories reconstructed from several Ellis sources, not chapter titles or an axiomatic classification explicitly supplied by Ellis. [Fenlon, pp. 84–109](#).

The book's sequence answers a different question: what must a performer do to acquire these relationships? Its memory work, gestures, syllables, rests, role reversals, and transfers to instrument and ensemble constitute a practical layer beneath the taxonomy. Footnote 151 on dissertation p. 100 explicitly excludes the detailed clapping/tapping procedure. The present report develops that declared boundary rather than treating it as an accidental omission.

Dissertation concept	Book mechanism	What the complete reading adds
Additive meter	Grouped claps; 5, 7, 9 charts; long rows	Role-specific bodily learning and flexible internal accents
Superimposition within a shared span	Chapter 8 grids; Chapter 10 talas	A constructive algorithm and explicit choice of reference span
Superimposition over barlines	Continuous counts; extended grouping	Distinction between free recurrence and designed finite closure
Exact multiples	Single/double/quadruple/half rates	Fractional placement of vocal downbeats and full practice matrices
Tihai	Numeric placement, melodic invention, nesting	Endpoint equations and transfer to chamber-ensemble closure
Theory versus perception	Composite hearing; apparent tempo; rebarring	Ellis's practical observations about heard and felt effects
Compositional integration	S.S.; New Nine; Orientation; 3:5:7	Several distinct formal and ensemble applications before the Soup case study

Three refinements improve the reconciliation

First, the categories can be indexed to different hierarchical spans. “Within the barline” is clear when the printed bar is the reference. Chapter 10 can instead equalize whole tala durations. S.S. fixes bar duration while changing the beat, and *Orientation* preserves total duration while changing the notational boundary. The general question is which span governs the comparison.

Second, the curriculum distinguishes simultaneous and successive relations. Two rhythms may coexist, but Chapter 11 also requires an immediate change from one density to another. A player who can perform 4:7 with a supporting grid may still struggle to jump into sevens after fours. The taxonomy describes the target relation; the exercise tests access to it at the transition.

Third, formal routing and ensemble responsibility are not reducible to meter. S.S. permits different paths through its areas. *New Nine* assigns vamps, cues, blues choruses, and percussion

space. 3:5:7 externalizes the clock. These are compositional and rehearsal decisions governing the use of rhythmic materials, not additional meter categories.

Precise qualifications, not wholesale revision

The dissertation's broad judgment that *Rhythm* is less autobiographical and more pedagogical than *The New Rhythm Book* is strongly supported. Its claim that the entire text avoids jazz-specific terms or concepts is too absolute for this witness. Pages 99–108 refer to jazz musicians, a jazz tune, blues form, blowing, choruses, and vamps. The more accurate characterization is **a general-musician method with explicit jazz applications and repertoire**. [Fenlon, p. 82; Rhythm, pp. 99–108](#).

Likewise, the statement that Ellis does not discuss aural perception needs narrowing. Page 85 asks for hearing the combined rhythm as a complex; p. 98 describes apparent disorientation and release; p. 99 describes apparent changes of speed; p. 106 warns that rebarring damages rhythmic feeling. Ellis does not provide an empirical listener study or a systematic perceptual theory, but he does make acute practical observations. The dissertation's ensuing account of a difference between notation and hearing remains valuable and gains direct support from *Orientation*. [Fenlon, pp. 113–114; Rhythm, pp. 85, 98–99, 106](#).

The discussion of fours, fives, and singleton ones also benefits from a hierarchical reading. Fenlon already identifies the distinction between TA KA DI MI and two TA KA groups and already examines the nineteen-unit singleton. The book allows a stronger interpretation: decomposability into smaller units does not dictate which boundaries a musician must emphasize. The coexistence of several group levels is a resource, not automatically a theoretical contradiction. [Fenlon, pp. 110–113](#).

Strawberry Soup as a later integrated demonstration

The dissertation's *Strawberry Soup* study remains an effective demonstration of integrated rhythmic procedures. Its central framework is 9/4, with two 9/8 groups of 3+2+2+2 occupying one 9/4 bar and longer 9/2 spans extending across two bars. In quarter-note beat units, the reference durations are 9, 4.5, and 18. The relationship is the same family of augmentation/diminution trained in Chapter 3, now distributed across a composition. [Fenlon, pp. 117–121](#).

The closing 7+7+7+7+8 eighth-unit grouping spans 36 eighths, or two 9/4 bars. It provides a particularly clear connection to Chapter 1's complement technique: four sevens establish the repeated character, then an eight-unit segment closes the chosen frame. This is a composed completion, not the uninterrupted natural recurrence of seven against nine. [Fenlon, pp. 119, 149–150](#).

The eighth chorus's layered entries, including the fractional signatures discussed by Fenlon, show why a numerator alone cannot describe the perceptual result. A $4\frac{1}{2}/4$ span equals 9/8 in duration; $9\frac{1}{2}/4$ equals 19/8. Different notation can signal how a player is expected to count or relate the line to another layer. The relevant question is not whether the fraction can be eliminated, but what reference its notation asks the performer to retain. [Fenlon, pp. 145–147](#).

The drum routine turns the method into orchestration

The drum routine is divided into seven four-bar cycles. The early entries establish whole-note, dotted-half, half-note, and quarter-note structures; later collective passages use the 3222+3222 organization at eighth and sixteenth levels. The non-percussion ensemble maintains a recurring melodic resource while the percussion layers change. [Fenlon, pp. 150–153.](#)

A four-bar 9/4 cycle lasts 36 quarter-note beats. Within that span, constant intervals of four, three, two, and one quarter-note beats produce 9, 12, 18, and 36 interval positions respectively. The 36-unit frame accommodates all of them because $\text{lcm}(9, 4, 3, 2) = 36$. Counts here exclude the next cycle's shared initial attack. This arithmetic explains why the four-bar frame can support the contrasting layers; it does not dictate every improvised note a drummer must play.

The analogy with the book is specific. Chapter 7 develops the capacity to maintain an independent ground and count. Chapter 3 supplies exact-multiple transformations. Chapter 6 teaches continuation through holes in the surface. The routine organizes those resources among players and uses their accumulation, thinning, and intensification to articulate a larger climax.

INSERT
DRUM ROUTINE
(estimate continues)

DE *mf*
(DE continues)

ADD Conga *mf*
(Conga continues) + 5/8

ADD Drums *mf*
(Drums continues) + 5/8 + DE

ADD Perc *mf*

ALL 4 *p* QUARTER NOTES ONLY (PLAY POLITICALLY - leave holes)

ALL 4 *f* (Keep BD in 9/4)

ALL 4 *f - one* (Keep BD in 9/4)
(Big FASH with Conga BD on one)

note when copying be sure spaces between notes (indicated 32223222) are clear

Figure 31. The manuscript drum-routine excerpt reproduced in Fenlon's dissertation, printed p. 151, Example 33. This screenshot comes from the supplied dissertation PDF.

The instruction “keep melody going—play only when it’s right to play,” noted as apparently contradictory in dissertation n. 167, can be read as separating continuity of the internal reference

from continuous sounding. The syncopation chapter offers a practical basis for that interpretation: a line can remain structurally active while some attacks are withheld. This is a proposed reconciliation, not a documented explanation from Ellis. [Fenlon, p. 150 n. 167; Rhythm, pp. 68–78.](#)

Preserve unresolved details in quoted analyses

Some compressed arithmetic in the *Strawberry Soup* prose quoted on dissertation p. 119 does not transparently sum to the nominal spans when read literally. The detailed score examples and Table 6 on p. 132 must be consulted before normalizing those descriptions. This report uses relationships whose durations can be checked directly—two 9/8 spans within 9/4, 9/2 across two 9/4 bars, and four sevens plus eight eighths. It does not silently “repair” Ellis’s quoted wording or derive a new critical edition of *Strawberry Soup* from a prose paraphrase.

16. The deeper implications for Ellis’s musical legacy

The book teaches transformations, not a catalogue of difficult meters

The most reusable unit in *Rhythm* is an operation: keep a reference, change a grouping, alter density, move an entry, suppress attacks, exchange roles, or plan a return. The same operation reappears at different scales. A count becomes a melody; a bodily cycle becomes a vamp; a controlled endpoint becomes ensemble closure. The hundreds of practice conditions are applications of a comparatively economical set of ideas.

That economy helps explain why the book can serve composers as well as performers. An exercise does not merely prepare a future piece; it can generate the piece’s material or formal organization. S.S. is especially explicit: a subdivision-switching drill becomes a set of compositional areas with alternative routes. *Hot Todi* and the 35/8 row likewise present compact starting conditions for musical invention.

Musical difficulty is distributed among parameters

A long numerator alone is not a reliable difficulty ranking. The 35/8 row has an intelligible growth pattern. A shorter 7:4 relation may require finer proportional placement. An apparently simple sparse pattern may expose inaccurate internal timing. A fixed 4/4 notation may be harder to interpret correctly than an explicit 7/8 + 9/8 notation if it conceals the intended grouping.

Fenlon’s increasing-complexity table is useful as an analytical orientation, but the book suggests additional performance variables: articulation speed, grouping familiarity, phase of entry, amount of silence, role assignment, density transition, and predictability of formal cues. These variables can make two arithmetically similar tasks feel quite different. This is an analytical extension, not a measured ranking of player difficulty. [Fenlon, p. 109; Rhythm, pp. 11–12, 68–85, 100–108.](#)

The method cultivates both independence and integration

The opening chapters separate body, voice, and instrument. Chapter 8 then asks for a composite hearing. The closing pieces integrate the layers in dynamic, timbral, formal, and harmonic contexts. Independence is therefore a means to flexible musical participation, not an aesthetic demand that every layer remain analytically isolated to the listener.

The point is especially clear in Ellis’s account of tihais. The listener may feel temporarily disoriented; the performer retains the reference and arrives deliberately. Exact structure supports an expressive surface that need not advertise its calculation. That insight reconciles the book’s practical method with the dissertation’s discussion of construction and perception.

What the complete witness makes possible

This corpus supports a critical, usable presentation of Ellis’s pedagogical system with its original images, explicit teacher credits, corrected local references, verified rhythmic spans, and clearly separated editorial analysis. It also supports separate studies of the repertoire examples instead of making *Strawberry Soup* the sole endpoint of every explanation.

The historically significant feature is the breadth of the connection: Indian teaching encounters, embodied rhythmic practice, improvisation, public song, ensemble coordination, and experimental chamber composition occupy one document. Its closing pages do not abandon the pedagogy. They reveal what the pedagogy was for.

Appendix A. Completeness, dating, and the physical object

What the two exports establish

Both supplied archives contain the same 62 still-image stems, IMG_5818 through IMG_5879. The JPG archive also contains 14 MOV files; the full archive contains 62 HEIC files and 62 MOV files. The MOV companions add no additional numbered book pages to this still-image inventory. The HEIC-derived spread images have approximately 7.78 times as many pixels as the JPG export, with about 2.79 times the linear resolution. They are preferable for reading small rhythmic marks and handwritten annotations.

Image stem(s)	Photographed content
IMG_5818	Front cover
IMG_5819	Inside front cover and title page
IMG_5820	First contents page
IMG_5821	Second contents page and numbered p. 1
IMG_5822–IMG_5877	Continuous spreads pp. 2–113
IMG_5878	Closing blank/inside-cover view
IMG_5879	Back cover

For IMG_n from 5822 through 5877, the left page is 2(n–5821) and the right page is one greater. This provides a compact, reproducible mapping for every numbered page. The photographs and contents agree on the twelve-chapter sequence and its end. No explanation of the earlier Google Photos export failure can be established from the new files alone.

Textual dates and object dates are different

The title page carries 1977. Several closing scores carry 1965, and 3:5:7 specifies January 1965. The introduction refers to beginning Indian study “last year.” Fenlon already recognized the conflict between a later title-page date and earlier material, and noted that *The New Rhythm Book* referred to *Rhythm* before 1977. The complete photographs reinforce a document assembled from material with different dates; they do not establish one precise completion date for the whole work. [Rhythm, title, pp. 1, 102, 104, 107, 109, 112; Fenlon, pp. 79–81.](#)

Original manuscript or copy?

The visible object is a comb-bound compilation of typescript and manuscript-derived notation, with corrections, changing page formats, and reproduction-like background patterns on some sheets. The photographs establish the character of the document’s contents. They do not reliably distinguish original writing from a reproduction of that writing at every location.

A bound reprographic or study copy remains a plausible working description; autograph status is unproved. Thick paper may have been chosen for durability, handling, reproduction, or assembly and is not decisive by itself. A conclusive examination would compare actual ink/pencil/toner on the sheets, impressions and alterations, paper and binding evidence, provenance records, and another authenticated witness. Those are targeted object questions, not reasons to doubt the musical content visible here.

The dissertation records obtaining photocopies of *Rhythm* and describes few extant copies, so the work itself was already documented in more than a hypothetical single witness. UCLA’s archive describes holdings of Ellis manuscripts and related materials. Neither source establishes the current location of every copy or proves that this particular object is unique. The defensible claim is that this is a complete photographed witness available for detailed study, with physical provenance still unresolved. [Fenlon, pp. 3, 5–6; Russell, UCLA Don Ellis collection.](#)

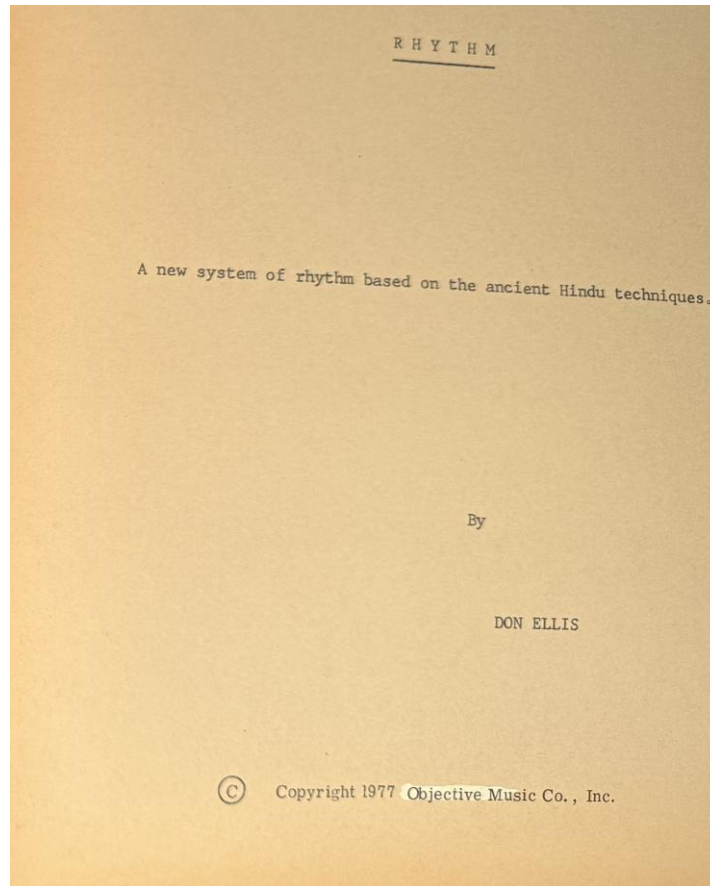


Figure 32. The title and 1977 copyright notice identify the work but do not date the manufacture of every sheet. IMG_5819, right.

Appendix B. Reading cautions and local editorial issues

The following issues are limited and identifiable. They should be recorded in an edition without obscuring the larger coherence of the method.

Location	Reading issue	Appropriate treatment
pp. 19–23	Five displayed orders of two fives and two threes	Do not claim six exhaustive linear permutations; label 3553 an editorial extension
p. 24	“0” in 0 5 5 5	One silent event unit, not zero duration
pp. 41–45	Tuplet numerals have different spans	Read quarter-triplet 3:2 and printed 5:4 / 7:4 distinctly
p. 61	Final prompt names 2232 while the active ground is 2322	Flag a likely reused-text error; retain the chart evidence
p. 64	Ektal grouping and gesture symbols differ from a conventional account	Preserve the original and provide a source-based qualification

Location	Reading issue	Appropriate treatment
pp. 93–97	Corrections, half-beat starts, and inclusive counting	Distinguish last attack from note duration and elapsed intervals
pp. 93, 98	Broad “chakradar” label; later explicit nesting	Explain terminology without claiming the nested idea is absent
pp. 101–102	Blues-related description and S.S. initials	Retain the printed thirteen bars; do not expand initials without evidence
pp. 106, 112–113	Only first and last pages of 3:5:7	Treat as an intentional excerpt, not a missing-photo gap

The remaining significant uncertainties are the object’s provenance and reproduction history, the full score and performance realization of 3:5:7, the expansion of the initials S.S., and the relationship of particular reduced charts to specific recorded arrangements. The report’s conclusions do not require inventing answers to those questions.

Sources and citation record

Don Ellis. *Rhythm: A new system of rhythm based on the ancient Hindu techniques*. Title-page copyright 1977, Objective Music Co., Inc.; contents include internally dated 1965 scores. Primary evidence: the user-supplied *Don Ellis Rhythm Book FULL iCloud Photos.zip* and matching *Don Ellis Rhythm Book iCloud JPG Photos.zip*, IMG_5818–IMG_5879. All twelve chapters, preliminary material, numbered pp. 1–113, and closing views were visually reviewed. The report’s photographic figures are taken from these files. The supplied work is distinct from *The New Rhythm Book* (1972).

Sean P. Fenlon. *The Exotic Rhythms of Don Ellis*. Doctor of Musical Arts dissertation, The Peabody Institute of The Johns Hopkins University, 25 May 2002. Primary comparative source: the user-supplied *TheExoticRhythmsOfDonEllis-Dissertation(2).pdf*, 215 PDF pages. [Public PDF](#); [author’s dissertation page](#). Quotations, taxonomy, page references, and the drum-routine screenshot were checked against the supplied PDF.

Carolyn Campbell / UCLA Department of Ethnomusicology. “UCLA Department of Ethnomusicology Receives \$1 Million Pledge ...,” 7 September 2005; consulted for its institutional history of Indian music teaching, including Rao and Rajapur. [UCLA source](#).

Maureen Russell. “Highlights from the Ethnomusicology Archive: the Don Ellis collection,” *Ethnomusicology Review*, UCLA, 12 March 2015. Consulted for the archive’s description of holdings, not as proof of this object’s identity. [Archive article](#).

Smithsonian Folkways Recordings. *Vocal and Instrumental Ragas from South India*, Gayathri Rajapur, Harihar Rao, Dorothy Moskowitz; catalogue FW08854, release year 1967. Consulted as documentary context for the teachers’ musical milieu. [Catalogue entry](#).

David Courtney. “The Cadenza in North Indian Tabla,” originally *Percussive Notes* 32, no. 4 (August 1994), pp. 54–64; author’s online reprint. Consulted for cadential terminology and inclusive endpoint counting. [Article](#). Also: “Ektal,” undated teaching reference. [Ektal page](#).

DigiTabla. “Chakradar,” undated compositional-form reference with practice examples. Used as a corroborating account of nested structure. [Reference](#).

Peyman Nasehpour. “Mathematics in the Indian Rhythm System,” undated. Used as an independent comparison for the inclusive-counting convention in a simple tihai. [Mathematical note](#).

Web sources accessed for this report on 6 September 2026. Searches were targeted to the work’s identity, its teaching context, archive claims, and technical terminology. The complete photographed book and supplied dissertation carry the principal analytical burden. No negative search result is treated as proof that another physical copy does not exist.