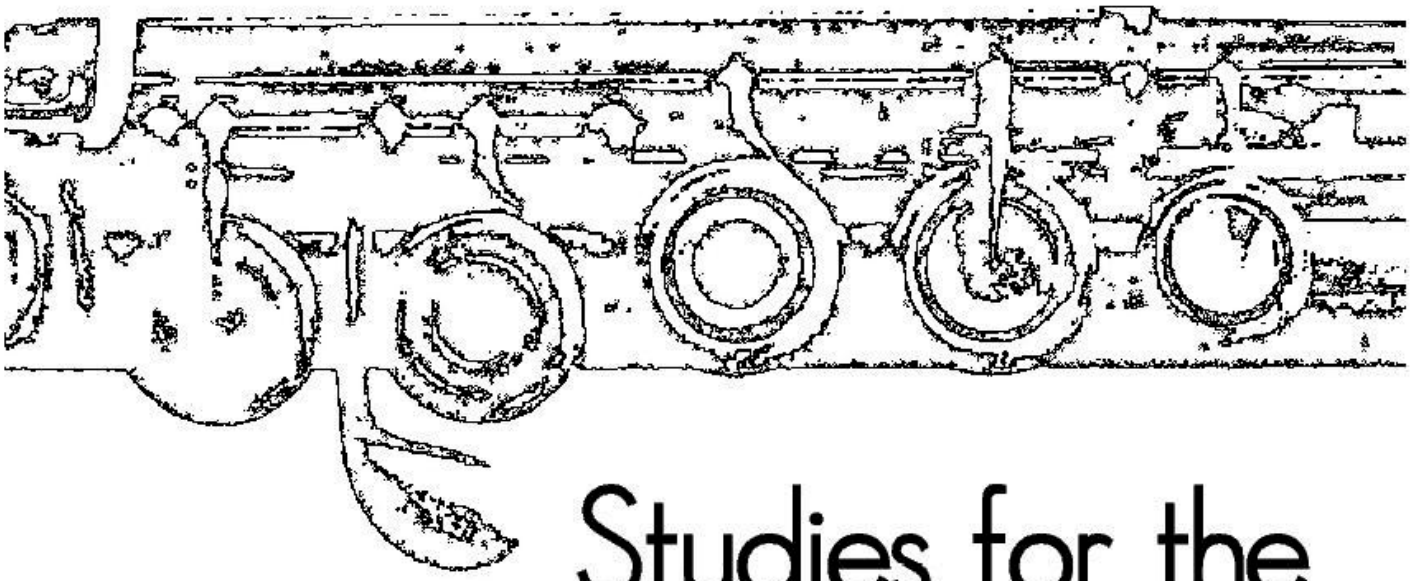
Nathan Zalman



Studies for the Practical Flutist

book one

ZalmanStudios.com

Studies for the Practical Flutist, Book 1
by Nathan Zalman

Preface

Progressive, rhythmic, and/or melodic studies have an important role to play in the flutists' training. Yet there is also a place for smaller, focused, goal-oriented studies, primarily for maintaining (or regaining!) technical and tone facility. These studies are of the second sort.

This book is to be used as a practice resource. There are tone and embouchure studies, each with a specific purpose. There are also many technical exercises, some of which push the envelope, as it were, of harmonic and scalar possibilities. Still others are based explicitly on the concepts of others, to extend them and distill their essence, and, in some cases, to develop them a step or two further.

All of these studies were developed out of my own needs and the needs of my students. As such, they are driven by a need for practical ways of working on everyday problems. Moreover, they are examples of how to practice, and how to use your own creativity to create your own studies.

The studies in this book all appeared at one time or another as free downloads on my website, ZalmanStudios.com. Flutists from all over the world have written to me to tell me how much the studies have helped them. Consequently I pulled them all together into one book that should be more convenient, not to mention durable, than a notebook full of loose papers.

Enjoy!

Nathan Zalman
Carrboro, July 2006

Thoughts on Tone and Embouchure

"Everything affects everything" – David Williams, flute maker.

The subject of the quote was the myriad of options available on flutes in terms of the materials of manufacture, such as tubing material, thickness, head and riser material, riser shape and cut, even style and configuration of stopper.

This applies to tone as well.

The most important factor in the sound of the flute remains your own body: your facial muscles, your lips, teeth, tongue, shape and size of the oral cavity, your throat and voice box, your chest cavity, the strength and flexibility of the "breathing" muscles (the opposing muscle groups of the abdominals / diaphragm and the interior and exterior intercostals, which control the air pressure). Most of these factors can be varied by the flutist so some degree, and, in some cases, independently of all of the others.

The Flute: An Air-Reed Instrument

It is important to understand clearly where the flute tone comes from. In the simplest terms, a funnel of air, formed and directed by the lips, strikes the outer edge of the blowhole. This briefly compresses the air in the tube. The air, being elastic, bounces back, pushing back at the air funnel. The pressure of the funnel overcomes this pushback and compresses the air in the tube again. This seesaw motion, if continued, sets up a regular oscillation in the funnel, which in turn excites a regular compression / decompression cycle in the tube, thus forming a standing wave inside it. This standing wave is the tone of the flute. The oscillation of the air funnel is why the flute is called an "air reed", in that it acts in a way similar to the reed on a clarinet or bassoon, i.e., its motion creates a standing wave inside the tube of the instrument.

The flute differs in an important way from cane-reed wind instruments, in that for the most part it lacks octave keys. The sounding tube continues to vibrate at its fundamental pitch (which is the first partial), determined by its length, until something happens to cause it to split into two and vibrate at the second or subsequent harmonic.

The question is, what makes the flute jump up to the next harmonic? The simple answer is that the air-reed is made to oscillate faster and faster until the standing wave is forced to jump to the next harmonic, *since the tube vibrates sympathetically*, or in conjunction with, the air-reed. An octave key on an oboe, on the other hand, will force the upper harmonic to sound because it creates a point of low pressure in the tube that causes the vibrating column to split at or near that point. The reed always, or nearly always, vibrates at the same speed. This gives rise to certain intonation problems with cane-reed instruments that the flute doesn't share, such as the tendency to blow flat at higher dynamic levels. The flute, of course, does the opposite. More about that later.

The key question, then, is, how do you make the air-reed vibrate faster in order to sound the next harmonic? By making the air go faster. In going to the next higher harmonic, the air speed is gradually increased, until a critical point is reached in which the sounding tube starts vibrating sympathetically at the next highest harmonic. In the reverse direction, the air slows until a critical point is reached when the sounding tube reverts to the next lower harmonic.

An important point is to observe what happens to the pitch of the note as the air speed increases, but before it jumps to the higher harmonic: it goes up. Slowing the air, the pitch goes down. *Both pitch and register are controlled by air speed.*

In practice, the register change in air velocity is made very quickly, so as to minimize its effect on pitch.

These simple mechanics don't tell the whole story, however, because several variables influence the speed of the air. Among them are: the air angle, the size and shape of the opening formed by the lips, the presence or absence of various obstructions (teeth, tongue, closed throat, etc.), and the overall pressure with which the air is applied to the instrument by the breathing system.

Air striking a flat surface behaves like a fluid. Take a garden hose and direct a stream of water at the sidewalk, and observe the difference in the distance the water splashes when directed at an acute angle vs. an oblique one. Note that constricting the flow with your thumb makes the water come out faster, but so does turning up the water at the tap, *up to a point.*

Given equal pressure, making the embouchure opening smaller will increase the speed of the air. Again given equal pressure and opening size, increasing the angle (blowing down) will slow the air, blowing up will speed it up. . Both of these mechanisms will, in addition, change the volume of air that contributes to the air-reed, thus making the sound louder or softer. *Dynamics are controlled by air volume.*

An important question raised by the mechanical discussion above is: how is the air controlled? Most of the control comes from the embouchure, or the formation of the lips.

The Lips: An Air Valve

The lips are formed into a *valve* for controlling the air, using several groups of facial muscles. The valve can open, close, become wider, narrower, taller, shorter, be directed up, down, and, to a lesser extent, from side to side. Usually these changes are made in combination with each other.

The "valve" is formed by a group of muscles in the face called the "muscles of expression."

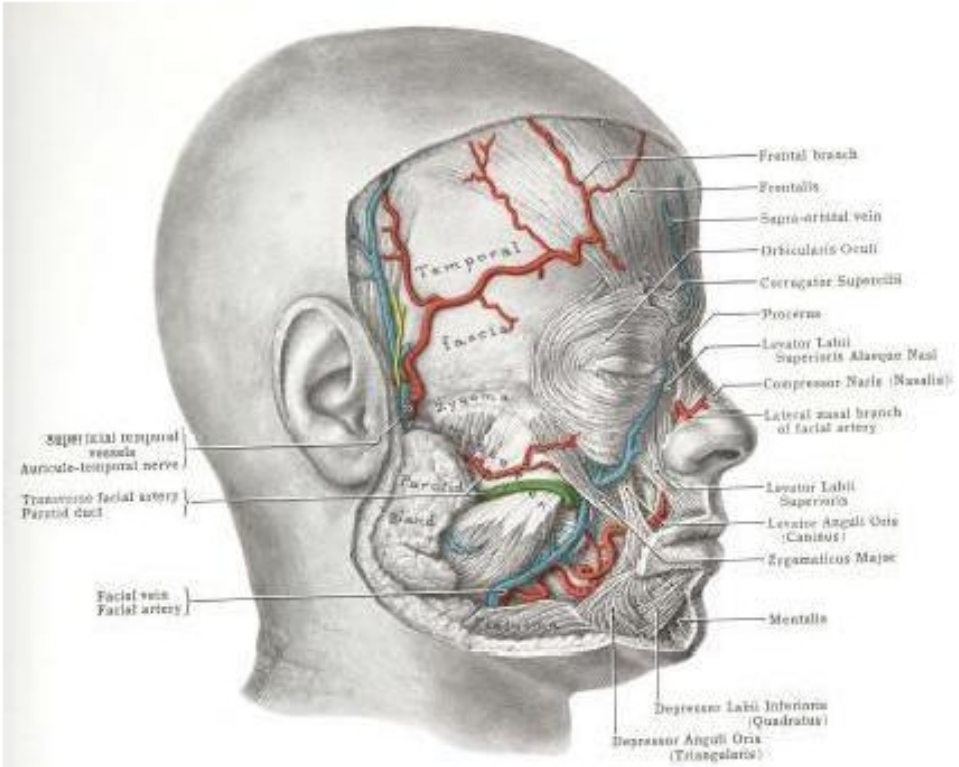


Figure 1: Facial Muscles, side view

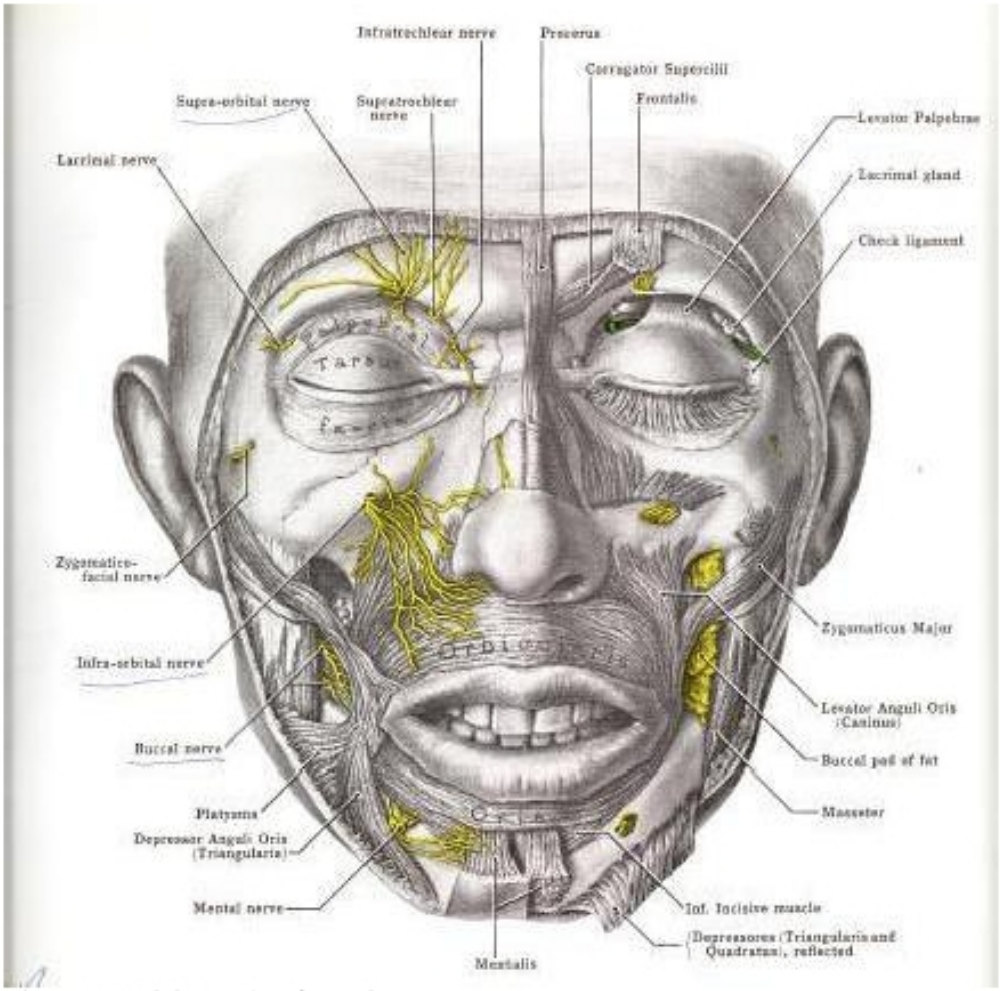


Figure 2: Facial Muscles, front view

Considered independently, the most important muscle groups do the following:

Orbicularis Oris	Pursing the lips
Mentalis	Extending lower lip
Levator Labii Superioris	Pulling up the upper lip
Levator Anguli Oris	Tighten the corners of the mouth
Depressor Anguli Oris (Triangularis)	Pull down the corners of the mouth
Zygomaticus Major	Widen the upper lips (e.g., the Mona Lisa)
Depressor Labii Inferioris (Quadratus)	Widen the lower lip and pull it down

These muscles, which are for the most part are branches of a large muscle originating in the chest called the Platysma (which extends halfway up the face), as well as some others

not mentioned, perform these operations in concert with each other. For example, the Zygomaticus Major and the Quadratus work together to pull the lip down.

Extending the upper and lower lips while maintaining tension in the Orbicularis Oris presses the lips together, making the opening smaller (i.e., closing the valve). This same motion performed while relaxing the Orbicularis Oris presses the lips forward without changing the size of the opening. Either motion can change the angle of the air funnel, depending on how much if any the lips extend or retract with respect to each other.

Slightly widening the lips, especially the upper one using the Zygomaticus Major, widens the opening between the lips. This has the effect of increasing volume of air (assuming pressure is also increased to compensate for increased size) and forming an air funnel that is wider when it strikes the outer edge of the blowhole. In effect, the air-reed is enlarged. The Obicularis Oris must also be relaxed somewhat, to allow the opening to widen without becoming too tall. This results in a more complex timbre than that achieved with a narrower opening. Returning to the cane-reed analogy, this is similar to using a harder (i.e., thicker) reed. It vibrates more loudly and strongly, but at the same time is harder to control.

Modern flute heads are designed, for the most part, to be played with a "harder" air reed.

Other Valve Controls

Other mechanisms are used, in combination with the muscles of expression, to control and direct the air-valve. The jaw can be raised and lowered to direct the air stream up and down. This is not done for register control, but to counteract the natural tendency of the low notes to be flat and the upper notes to be sharp, and to color the sound. If the jaw is lowered (the lips rotating to provide a constant opening size), the pitch will be lowered somewhat due to the increased angle of the air funnel. If the jaw is raised, the pitch will be raised, due to the decreased angle. The jaw movements are secondary to and extend the motions of the lips in changing the angle.

Because the overhang of the upper lip and the blowhole coverage of the lower lip vary when the jaw is moved, sometimes a marked change in the quality or color of the sound is noted. The change consists in increasing or decreasing the strength of the second through the fourth harmonics. To experiment with this, over blowing harmonics using the lowest notes on the flute is invaluable practice. Note the subtle lip tensions and balances needed to produce the second harmonic (an octave and a fifth above the fundamental), and utilize them while sustaining a note.

Another mechanism for practicing the subtle muscle interactions used in playing with refined tone control is whistle tones. The whistle tone is made by the air reed vibrating into the blowhole without causing the tube to vibrate. A very small volume of air is necessary. Isolating individual tones, not to mention playing controlled arpeggios, is an excellent way to discover and refine the subtle muscular control required for fine tone control.

Note that the whistle-tone is the equivalent of a cane-reed player buzzing the reed, or of a buzz-reed (i.e., brass) player buzzing the mouthpiece. Actually buzzing the lips is not recommended under any circumstances since its mechanism is not similar to the flute embouchure. Besides, it numbs the lips. It conditions the player to blow against the resistance of the buzz-reed, which is good, but high harmonics are a better exercise for flutists to practice blowing against resistance.

Beyond the Embouchure

The tone begins where the air begins: with the chest and lungs. Like the voice, the chest resonates when the flute is played; therefore the full expansion of the chest, especially in back, is key to enabling this tone and projection enhancing resonance[1]

The throat, because the Platysma muscle extends over it and tends to tense sympathetically with the embouchure, tends to become tight and constricted *above* the larynx, especially when the vibrato is centered there. The larynx itself, which can only stretch open, cannot be constricted except indirectly, from the throat above.

The mouth is open, the teeth are held apart, and the tongue is formed into a flat conduit for initiating the air funnel. It is not held up in the middle of the mouth and pointed (as if about to say "la" or "ra", since this obstructs the air originating from the lungs. The primary syllable of articulation is the tongue tapping the lip at the ends of the upper teeth, since this deforms the mouth the least and creates the least turbulence.

The whole breathing apparatus, including the air conduits formed by the throat and mouth, is used in such a way as to maximize control over the volume and pressure of the air being delivered to the "air-valve": open and relaxed, as well as big and powerful.

Beyond Tone

There is no such thing as a "flute tone" that exists independently of music. The sound of the flute has no more meaning than the ringing of the telephone or the screeching of brakes. It is when it is placed in the context of a musical phrase that the sound of the flute, in all its color and variety, can have meaning, and that meaning is an entirely musical one. Unless the sound of the flute contributes to communication of a musical phrase, a musical idea, a sense of motion to or from something, a sense of suspension, or other musical archetype, the flute might as well remain in its case, silent.

Discussions of which sound is "better" than another have no meaning outside a musical context, too, because there is no sound that the flute can make which is not appropriate for one musical context or another. The flutists' search is always for that sonority which provides for the most effectively communicated musical statement, for which there are more "correct" answers than there are stars in the sky. Experience, however, coupled with a keen musical intelligence, enables the flutist to make engaging choices.

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[1]. A detailed discussion of the breathing mechanisms is beyond the scope of this article.

An Approach to Evaluating College Applied Study

By Nathan S. Zalman, B.M, M.M., D.M.A

Each semester the applied teacher at the college level is faced with the responsibility of evaluating the performance of his students for the purposes of assigning a grade. The conscientious teacher will probably want this grade to reflect the student's performance in the lessons through the semester, as a way of limiting the subjectivity of the result, applying consistent criteria throughout her studio and over the years a student is in the studio, and, perhaps most important of all, communicating clear expectations to the student.

Generally this is an easy task, since applied students, especially those whose major is in the applied area, are by and large a well-motivated and hard working group of people. After all, if this had not been true from the beginning, they probably would not have been accepted into the applied study program in the first place.

However, from time to time one encounters a student who has not performed at the expected level or to the standards for the studio or institution. There may be various reasons for this unrelated to music (illness, schedule conflicts, busyness, lack of motivation, poor practice habits, emotional problems, etc). One always wants to take these things into consideration when evaluating a student's progress.

On the other hand, if the grade is to reflect the actual studio performance of the student, these factors cannot enter into the evaluation itself. The teacher always has the ability to exercise his discretion when it comes time to assign the final grade. This is the appropriate time at which those often-important "external factors" can and should be considered. The point is, however, that, for the evaluation and grading process to have any meaning, there be no automatic grades of "A", no "grade entitlements".

The evaluation process proposed in this document reflects what actually happens in the course of a semester's lessons. This is its only basis.

Opinions will differ widely about these issues, but these considerations are the starting point for this document.

An "evaluation process", then, is a process that is utilized to determine an evaluation; this evaluation is only one factor used in determining a grade.

Intended Audience

This document is intended primarily for teachers of applied music at the college level, and secondarily for those who teach applied music in other settings. At a tertiary level the document is addressed to college administrators and department heads, academic instructors, and those interested in establishing guidelines for student evaluation in general.

Though the criteria discussed are rather specific to the issues relevant to individual applied instruction, some generalizations could be drawn about the kinds of issues that must be dealt with when trying to derive objective evaluation criteria for student performance, and about the processes used to derive them. Those generalizations, however, are beyond the scope of this document.

Some of the issues raised in the questionnaire are specific to the departmental policies of Meredith College.

Lexigraphical conventions and definitions

Important terms are presented for the first time in **boldface**, followed by their definition.

It's important to note that the term **performance** is generally used in the human resources sense, meaning the student's actions in response to the assignments and expressed expectations of the teacher, and not in the usual sense of "musical presentation before an audience", except where the context makes it clear that this second usage is intended.

The evaluation process

A **process** is a set of repeatable steps that are taken within an organization to produce a product, to achieve desired result, or to respond to an event. In this case, the **evaluation process** is the series of actions taken by the teacher and the student to produce a signed-off evaluation.

The evaluation process takes place primarily at the beginning and the end of a semester of applied study. The teacher and the student are the ones who carry out the process.

The main product of the evaluation is a completed **evaluation questionnaire**. This questionnaire documents how and to what degree the student has responded to the assignments and expectations of the teacher throughout the course of a semester, through a series of statements that describe the teacher's expectations of the student's performance.

The completed evaluation will then be used as part of the process (not discussed here) by which a grade is determined, and/or for other purposes.

The process steps

In summary, the evaluation process consists of the following steps:

1. At the beginning of the semester, the teacher gives the student a syllabus that contains in summary form the issues addressed by the evaluation questionnaire, and informs the student of what is entailed in the evaluation process. This

establishes a set of clear and understandable general expectations for the student to measure herself against during the course of the semester.

2. Immediately before the end of the semester the teacher completes an evaluation questionnaire. The questionnaire addresses specific aspects of the semester's work. It is described below.
3. The teacher scores the evaluation questionnaire using criteria detailed below.
4. The teacher gives the student a copy of the evaluation and schedules a consultation with the student to discuss the results.
5. The student and the teacher discuss the results of the questionnaire in a consultation meeting. This meeting does not take place during a lesson.
6. The student states that he has read and understood the evaluation results by signing it. During the meeting the student may add a comment to the evaluation if she wishes.
7. The teacher places the completed evaluation in her records for that student. Alternatively, the results can be filed with the student's permanent records.

Origins of the process

In its general outline, and in its use of a questionnaire as the principal instrument of evaluation, the evaluation process resembles and is largely inspired by the formal employee performance review process used by many large industrial corporations.

It differs, however, in several important respects from corporate reviews:

- The student and the teacher work together to identify the student's goals and aspirations. In the corporate setting, career planning is primarily seen as an extension of corporate interests.
- Any question on the questionnaire can be eliminated from consideration if it does not apply to the specific student. This is seldom the case in corporate performance reviews.
- In spite of official corporate pronouncements, performance reviews are a primary tool in determining retention and compensation. The evaluation process described here is deliberately separated from the grading process. Whether the results are used to determine a grade is completely at the instructor's discretion.

The Evaluation Questionnaire

The evaluation questionnaire consists of three sections. The first two sections are lists of statements that describe the applied teacher's expectations for student performance during a semester of applied study. These statements are evaluated by the teacher and assigned values such as "Always exceeds expectations", "Meets expectations", and "Does not meet expectations", each of which contributes to a numeric score. See below for further details.

The first section applies to Performance majors, and to those in non-Performance degree programs, such as B.A. or Music Education programs. The second section applies only to majors in Performance beyond their first year.

The questionnaire does not address expectations for secondary instrument study, or for non-major instrument study.

The third section details the specific materials covered in the lessons during the semester. Each item is rated according to the level of mastery of the material observed by the teacher during the semester. Public performance, particularly those required for the major (degree recitals excepted), are also noted and similarly evaluated.

Customizing the questionnaire

The questionnaire is customizable in the following ways:

- The teacher can add up to five additional expectation statements to each section of the questionnaire. These statements are then evaluated along with the other statements.
- Any statement that in the teacher's view does not apply to the student, or for some other reason she does not wish to include in the evaluation, can be removed from consideration by marking it "does not apply". The aggregate scoring will be adjusted accordingly.

The questionnaire is detailed section by section in the sections that follow.

Section 1: B.A. and Music Education Major Expectations

The statements in this section apply to major instrument applied study, regardless of degree program.

1. The student attends lessons regularly.
2. The student arrives on time for lessons.
3. The student brings all currently assigned materials with her to the lesson.
4. The student communicates to the teacher how much he practiced during the week past.
5. The student shows appropriate time management skills by practicing the required number of hours during the week.
6. The student prepares technical work as assigned to a reasonable degree of preparation.
7. The student's playing shows evidence of consistent technical work.
8. The student applies techniques discussed in lessons to the specific context in which they were introduced.
9. The student applies techniques discussed in lessons beyond the specific context in which they were introduced.

10. The student is proactive in arranging rehearsals with her accompanist outside the lesson, and communicates the rehearsal schedule to the teacher.
11. The student shows evidence of sufficient preparation of repertoire in each lesson.
12. The student makes appropriate progress in artistic development for his level.
13. The student performs on studio recital when asked by the teacher to do so.
14. The student meets departmental requirements for studio recital performance.
15. The student performs on student recital when asked by the teacher to do so.
16. The student meets departmental requirements for student recital performance.
17. The student engages with the teacher and other students when assigned to read and discuss articles as part of the studio recital class, or other activities planned for this time, such as masterclasses.
18. The student attends studio and student recitals as required by the department.
19. The student obtains copies of required music in a timely manner.
20. The student communicates with the teacher when difficulties mastering specific technical or repertoire issues are encountered.
21. The student asks questions and in general engages in active dialog with the teacher during lessons.
22. The student appears enthusiastic and engaged about her applied study.
23. The student shows an interest in the repertoire and brings ideas for repertoire he would like to study or technical work she would like to do to the lessons on several occasions during the semester.
24. The student shows openness and a sufficient degree of emotional maturity about being instructed. The student is teachable.
25. The student shows maturity and good judgment when communicating disagreement with specific techniques, directions, or assignments given by the instructor.
26. The student listens to recordings of the repertoire he is studying, comments about these recordings to the instructor, and asks questions about them.
27. The student shows interest in the wider musical world, attending performances by vocalists, chamber music, orchestras, bands, and so on, and communicates this to the teacher during the lesson.
28. The student turns in recital reports as required by the department.
29. The student is proactive in arranging makeup lessons for those she missed due to her illness, tours, or other lesson interruptions.
30. The student initiates planning for key required performances, such as recitals, well in advance.
31. through 35 – Space is provided for statements to be added by the individual instructor

Section 2: Performance Major Expectations

The statements in this section do not apply to first year performance major candidates. The expectations listed here are above and beyond those listed in "Section 1: B.A. and Music Education Major Expectations".

1. The student keeps the instructor informed about all performance engagements outside of those specifically assigned by the teacher.
2. The student seeks out performance opportunities within the College and in the general community.
3. The student responds positively to performance opportunities presented by the teacher and by other faculty.
4. The student shows evidence of a high level of self-motivation.
5. With her consistent mastery of assigned repertoire and technical material, the student shows a highly disciplined approach to practice work.
6. The student is able to balance the demands of his other coursework while consistently maintaining applied study as his first priority.
7. The student often practices more than the required number of hours during the week.
8. The student proposes works to be learned for concerto/aria and other competitions well in advance of the events.
9. The student seeks out avenues for enrichment studies, including masterclasses, workshops, summer programs, competitions, and so on, and then communicates these to the teacher.
10. through 14 – Space is provided for the instructor to provide additional statements.

Section 3: Lesson Material Evaluations

Each item of technical study and repertoire studied during the applied lessons is listed in a table. The following statements are evaluated for each item. Not all statements will apply to every item. The evaluation criteria are the same as for sections 1 and 2 of the questionnaire.

1. The student understood the technical demands of this material, and showed evidence of having worked on it consistently.
2. The student completed work on this material to a degree that was satisfactory with respect to her level.
3. The student showed evidence of having worked on this material in depth, achieving a high degree of understanding of it.
4. The student showed satisfactory progress on this sight-reading or supplemental material.
5. The student applied the teacher's suggestions for how to tackle the technical and musical challenges of this material.
6. This material was performed at a studio or student recital.
7. This material was performed for a final jury.
8. This material was performed on a recital, masterclass, or at some other performance venue.
9. The student brought her accompaniment to her lesson for this material.
10. Work on this material showed evidence of musical and artistic growth.
11. through 15 – Space is provided for the instructor to provide additional statements.

Scoring the Questionnaire

Each expectation in sections 1 and 2 of the questionnaire, and each item in section 3, are followed by the following list of evaluative statements. These statements are followed here by their scoring value.

Consistently exceeds expectations	(score: +3)
Often exceeds expectations	(score: +2)
Sometimes exceeds expectations	(score: +1)
Meets expectations	(score: 0)
Sometimes does not meet expectations	(score: -1)
Often does not meet expectations	(score: -2)
Consistently does not meet expectations	(score: -3)
Does not apply	(no score)

The final statement above removes the expectation or item from the questionnaire and adjusts the aggregate scoring accordingly.

Each item in section 3 is weighted at three times the value of the scores in the other sections. This reflects the primacy of actual performance of lesson assignments over more subjective considerations.

Interpreting the score

The score is calculated as a simple sum of all of the values of the evaluative statements, weighted as indicated above. The maximum and minimum score will vary, depending on which portions of the questionnaire have been completed, which statements have been assigned a "does not apply" evaluation, as well as which optional additional statements have been supplied by the teacher.

In general, a score close to zero indicates that the student is meeting expectations, one significantly above zero indicates that the student is exceeding expectations, and one significantly below zero indicates that the student is not meeting expectations.

The score is also converted into a percentage, using the lowest possible score and the highest possible score as the range over which the percentage has meaning. The degree to which the student scores above or below 50% is the degree to which the student meets, or does not meet, expectations, respectively. This allows scores from different students, as well as scores from the same student over time and changing expectations, to be compared. Judging meaningfulness of a given comparison is beyond the scope of this document.

A simple rule of thumb for interpreting an aggregate score for the questionnaire as a percentage of the whole questionnaire is the following:

84% - 100%	Consistently exceeds expectations

68% - 83%	Often exceeds expectations
51% - 67%	Sometimes exceeds expectations
50%	Meets expectations
33% - 49%	Sometimes does not meet expectations
16% - 32%	Often does not meet expectations
0% - 15%	Consistently does not meet expectations

These percentages cannot, however, be used as grades unless they are scaled according to the teacher's grading scale. The questionnaire does not provide a means of doing this, since grading scales differ widely.

Moreover, is it not suggested that the score be used to directly determine the student's grade. Doing so is not a goal of the evaluation process.

Implementation

The evaluation questionnaire is implemented using a Microsoft Excel spreadsheet that provides for automatic scoring as the teacher fills out the questionnaire. The questionnaire is then printed out and used to present the results to the student for sign-off.

Limitations of this work

TBD

To Do List

1. Include a section in the questionnaire specific to music majors studying instruments other than their major.
2. Include a section specific to non-music majors or other students taking private lessons either in the college setting, or outside of it. Perhaps include a generalized "student goals and aspirations" section, to be used to weight or adjust the scoring criteria
3. Include the length and frequency of lessons as a factor in the scoring criteria.
4. Expand the evaluation process to include a mid-term evaluation.
5. Study the literature and other sources to determine how evaluation of applied study is approached in other academic settings. Expand this paper into a monograph on the subject through a research grant obtained for that purpose.

Taffanel-Gaubert *17 Grandes Exercices Journalieres de Méchanisme*
Daily Practice Cycles by Nathan Zalman

The Taffanel-Gaubert *Mèthode Complète* specifies a three-tiered approach to practice – a) Scales, b) Arpeggios and other common patterns, including long tones, and c) pieces/studies. The Daily Practice Cycles below is a strategy for completing the Exercices Journaliers in a way that reflects that approach systematically, thus accomplishing a) and most of b).

This schedule divides T&G into two sections: exercises 1-5, and exercises 6-17. The first section is practiced twice in any 12-day period. This recognizes the primary importance of scale study, at the same time providing for regular practice of other important patterns.

The full set of articulations should be used (by changing frequently during each exercise), and, when specified, the full circle of fifths should be followed.

It should be possible, once one has become accustomed to these studies and sufficiently accomplished with them, to complete each day's work in between 30 to 45 minutes. It is not recommended that more time than this be devoted to these exercises. Otherwise they should be broken into sections and approached progressively. Similarly when less time is available.

Bearing in mind that the body requires periodic rest from these exertions, the cycles are intended to be one day each, with the intervening days devited to rest or practicing other things.

Other daily exercise books (Marquarre, Barrere, Moyse, Reichert, to name only a few) contain exercises that can be substituted at the appropriate points.

Cycle 1

Day 1	1 – Major Tetrachords	6a – Scales in Thirds
Day 2	2 – Minor Tetrachords	6b – Scales in Sixths
Day 3	3a – Scales, duple	7 – Finger Patterns
Day 4	3b – Scales, triple	8 – Arpeggios (triads, low to high)
Day 5	4 – Scales, major and minor	9 – Arpeggios (triads, high to low)
Day 6	5 – Chromatic Scales	10 – Arpeggios (progressions)

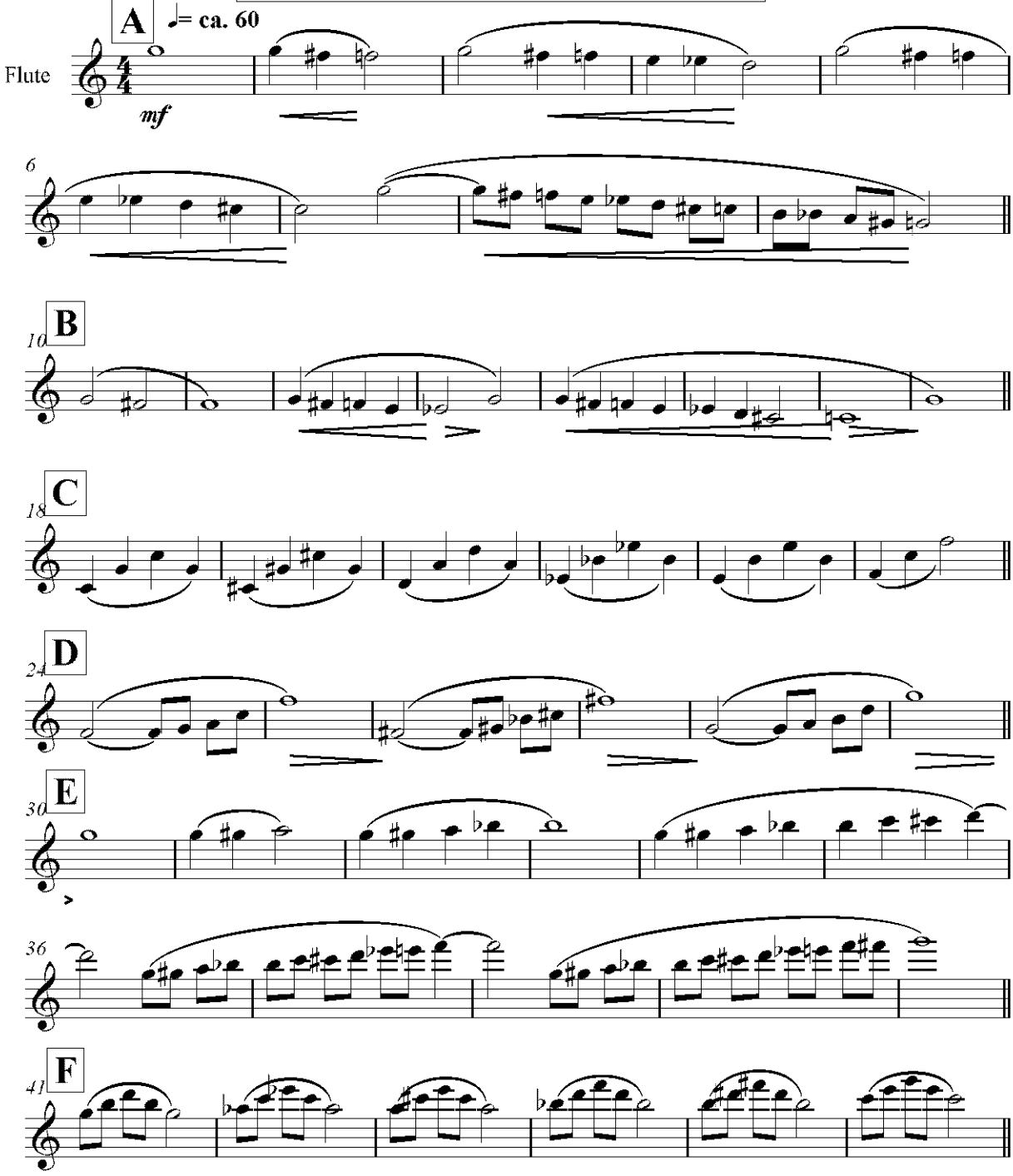
Cycle 2

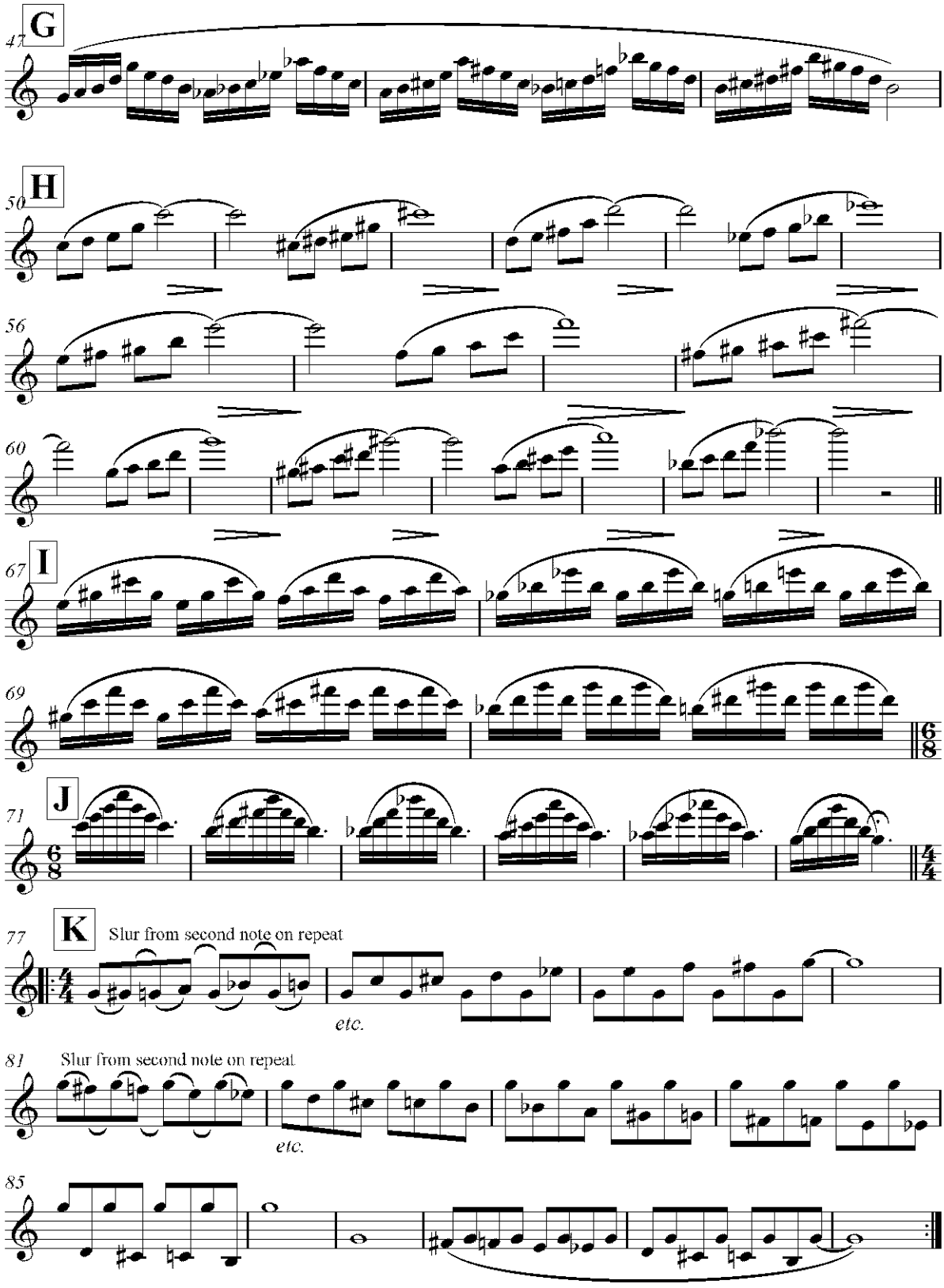
Day 7	Same as Day 1	11 – Broken Arpeggios (prog.)
Day 8	Same as Day 2	12 – Arpeggios (7^{th} Chords)
Day 9	Same as Day 3	13 – Broken Arpeggios (7^{th} Chords)
Day 10	Same as Day 4	14 – Dominant 7^{th} Chords
Day 11	Same as Day 5	15-16 Chromatic Patterns

Warmup & Relax

Nathan S. Zalman

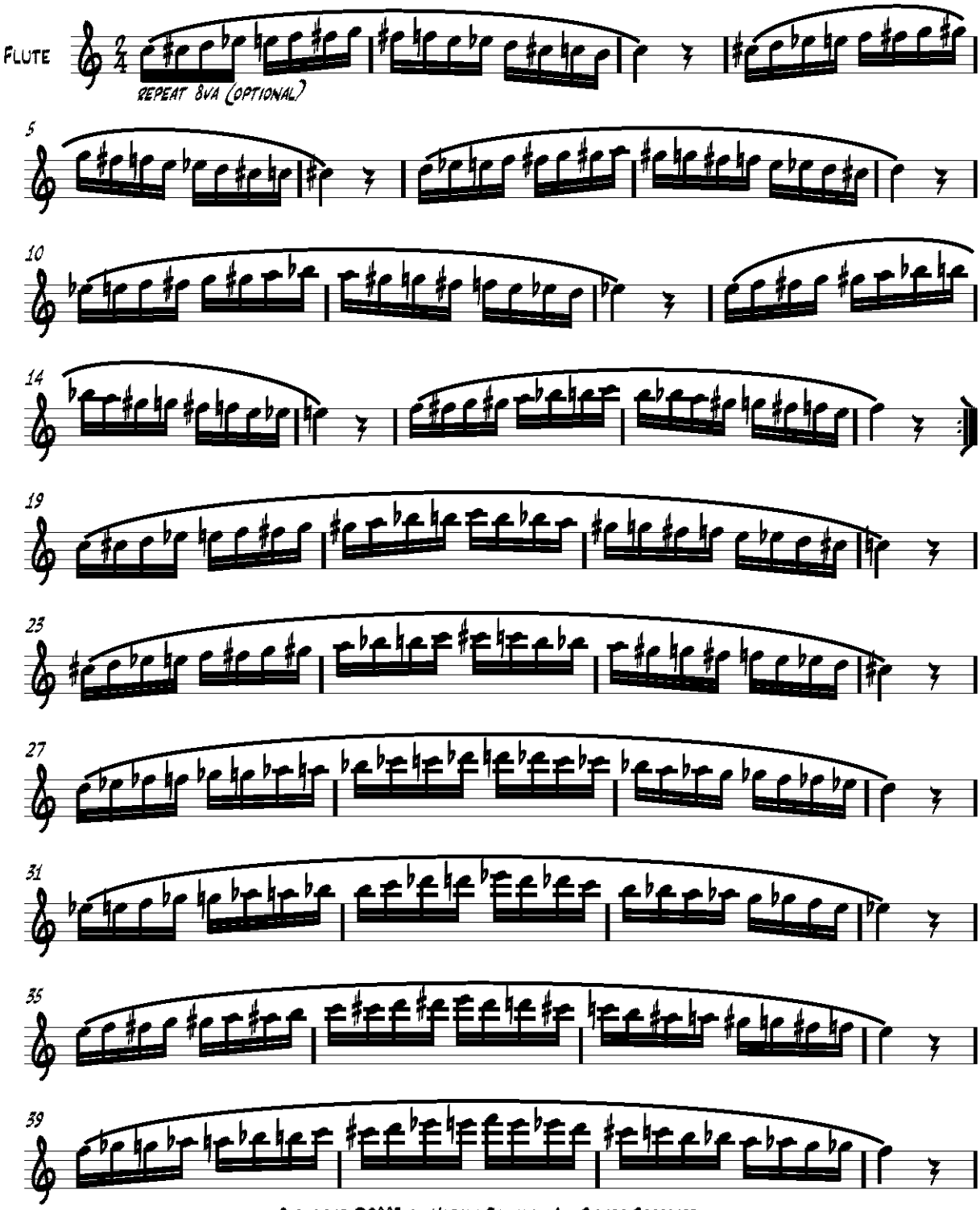
The goal of this exercize is to slowly and carefully warm up the muscles of the embouchure without creating tension. Play throughout with an open and relaxed tone. Duration: about 5-6 minutes.

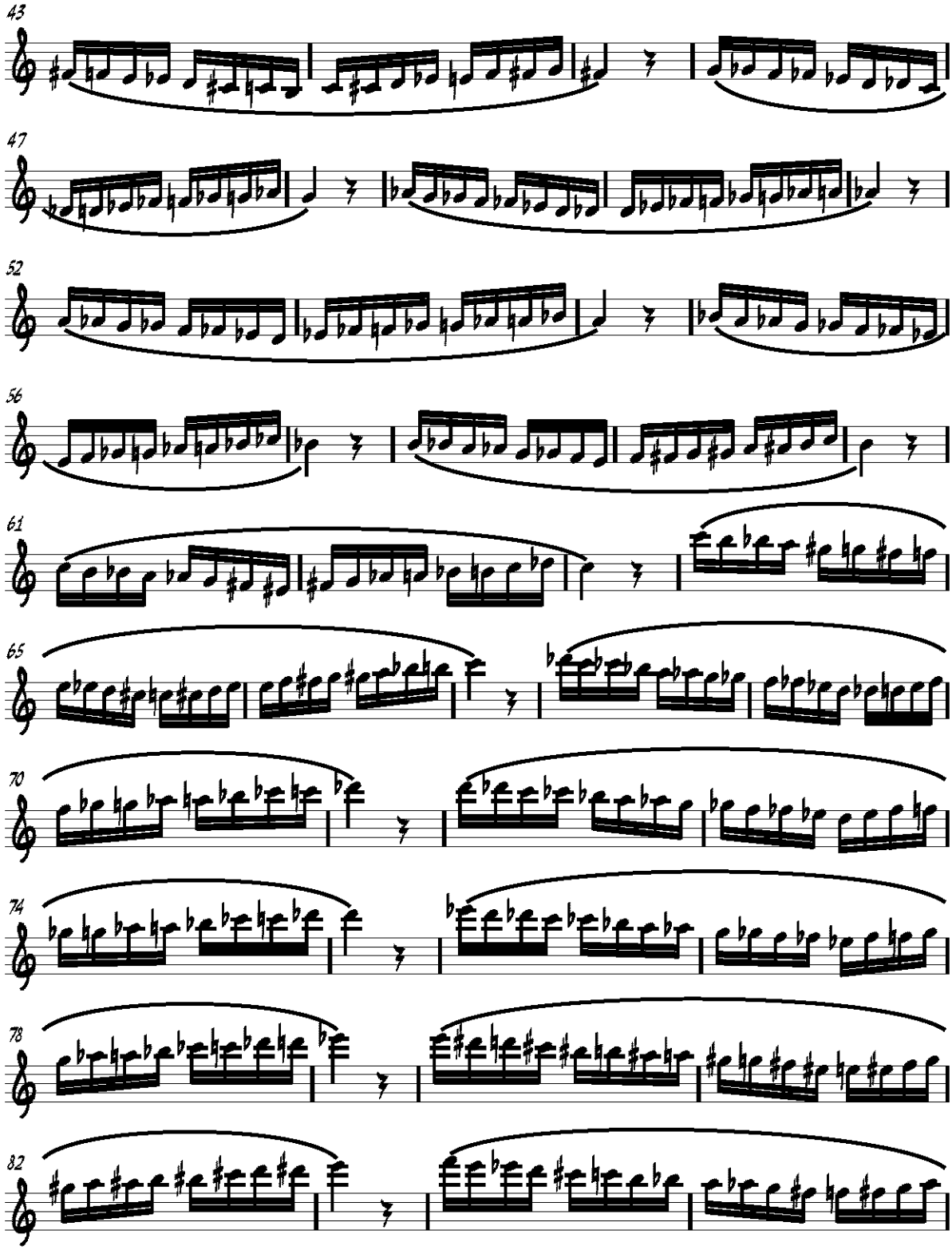


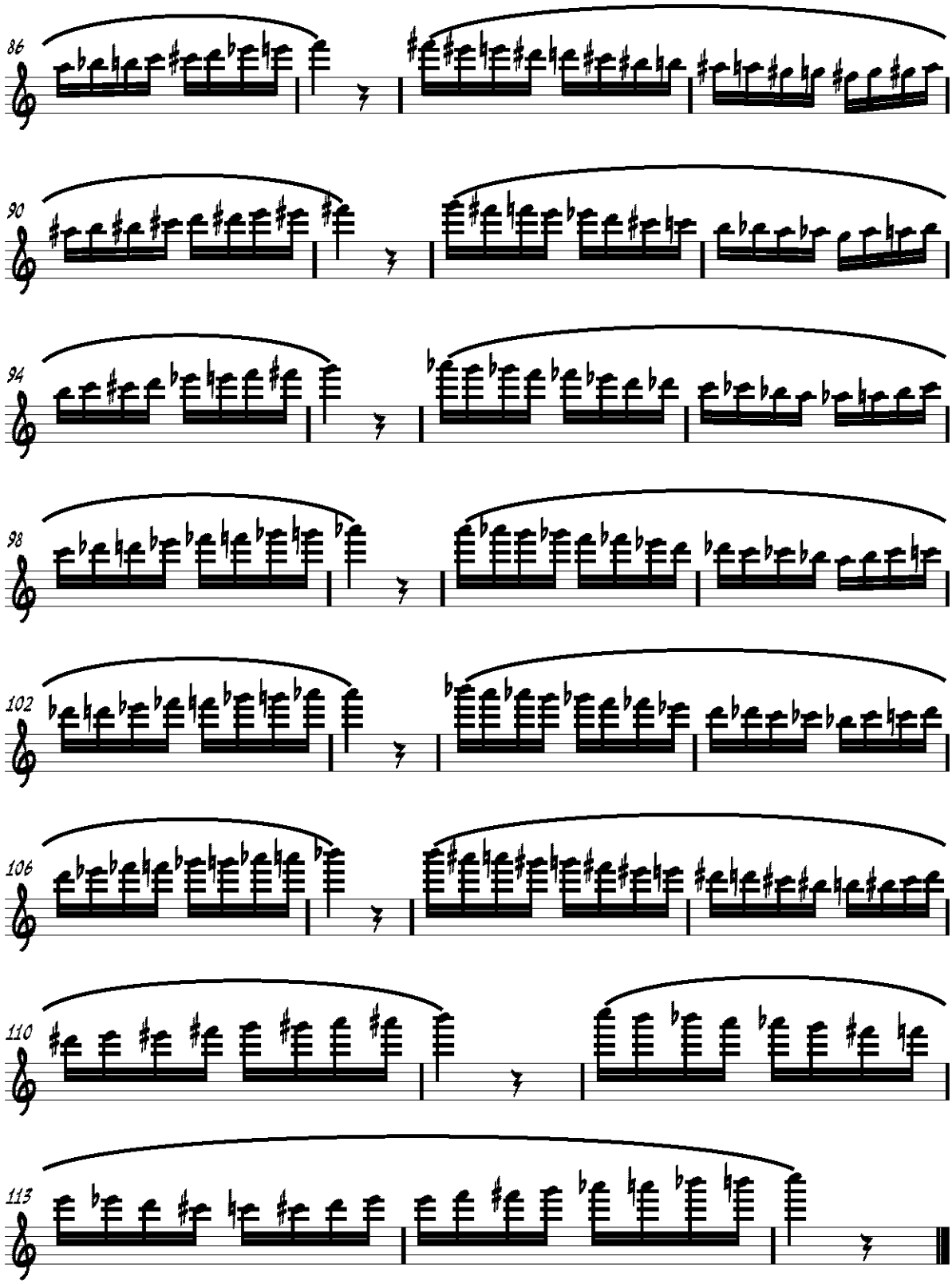

47
G
50
H
56
60
67
I
69
71
J
77
K
Slur from second note on repeat
etc.
81
Slur from second note on repeat
etc.
85

Chromatic Scale Study

Nathan Zalman



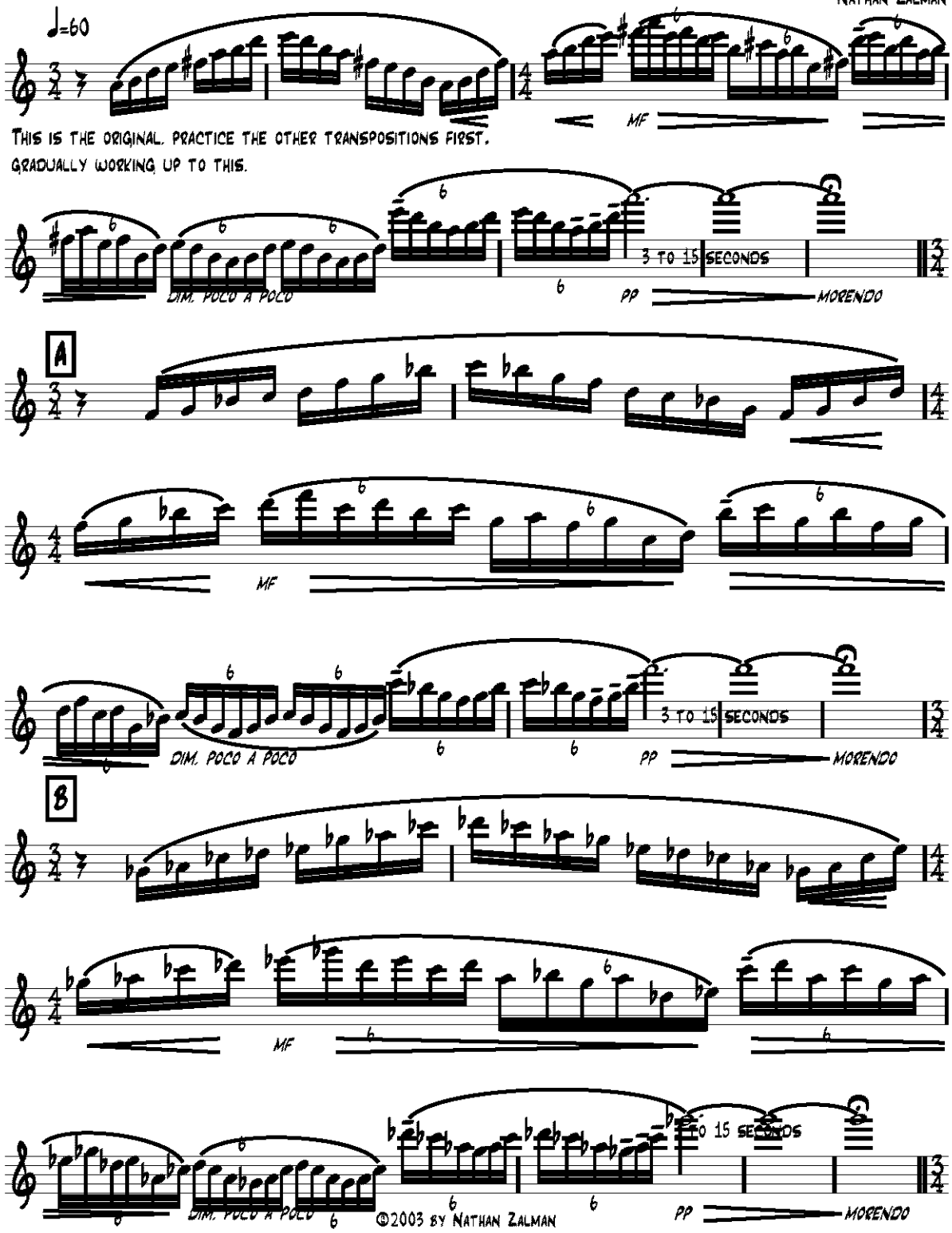

43
47
52
56
61
65
70
74
78
82

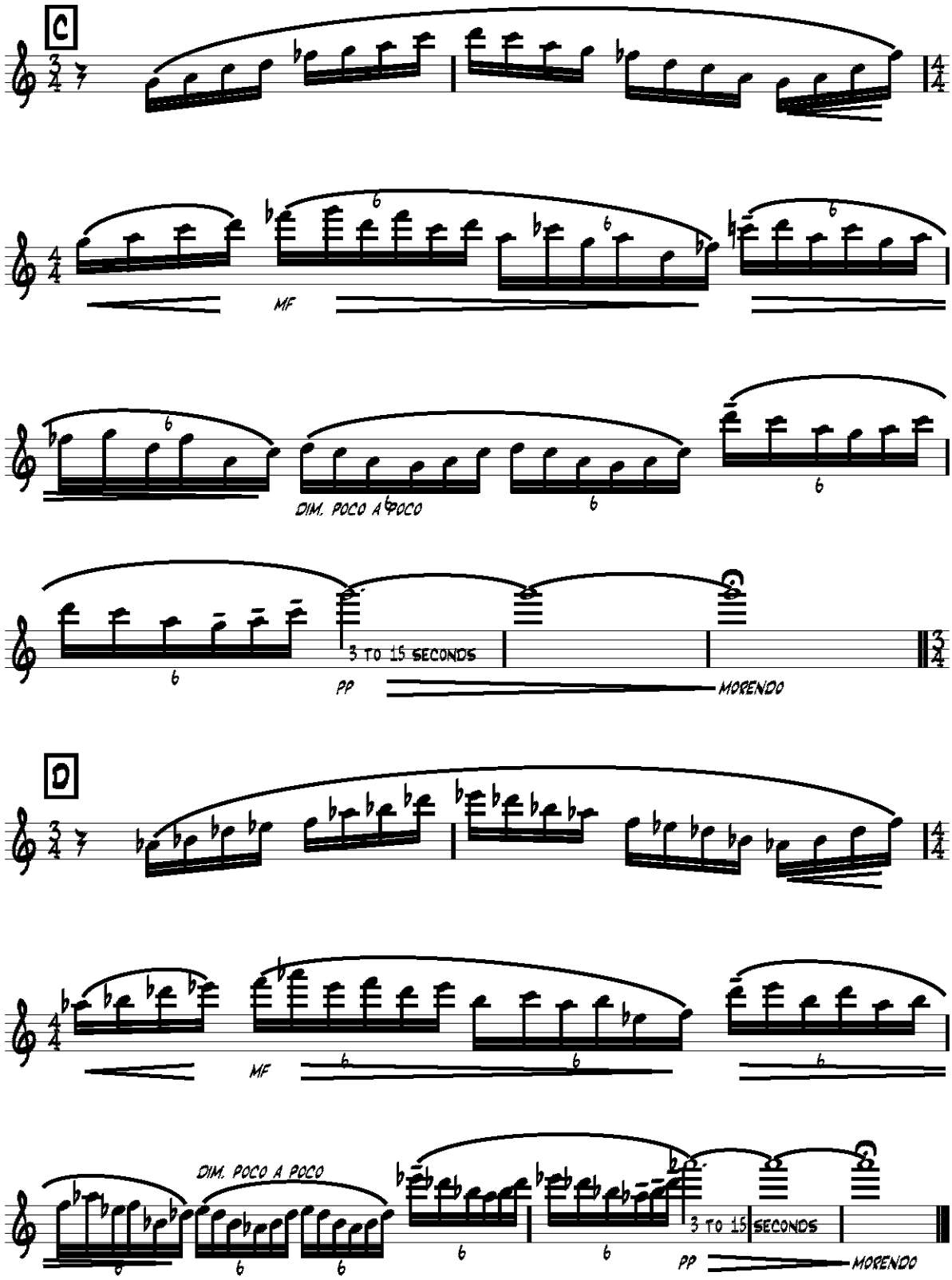

86
90
94
98
102
106
110
113

The Chop-Buster

Excerpt from "Pastorale" for flute and piano

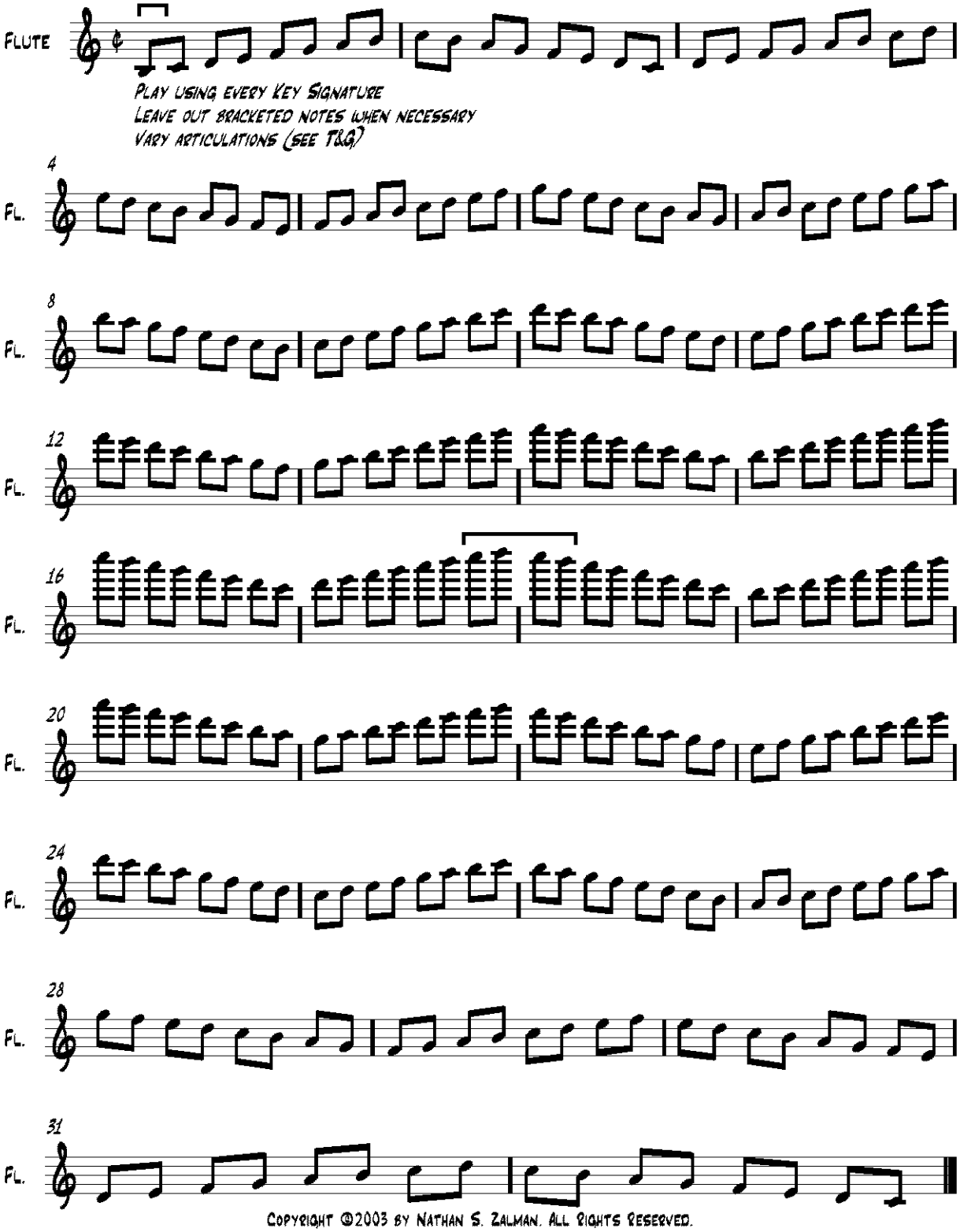
Nathan Zalman




C
MF
DIM. POCO A POCO
3 TO 15 SECONDS
PP
MORENDO
D
MF
DIM. POCO A POCO
3 TO 15 SECONDS
PP
MORENDO

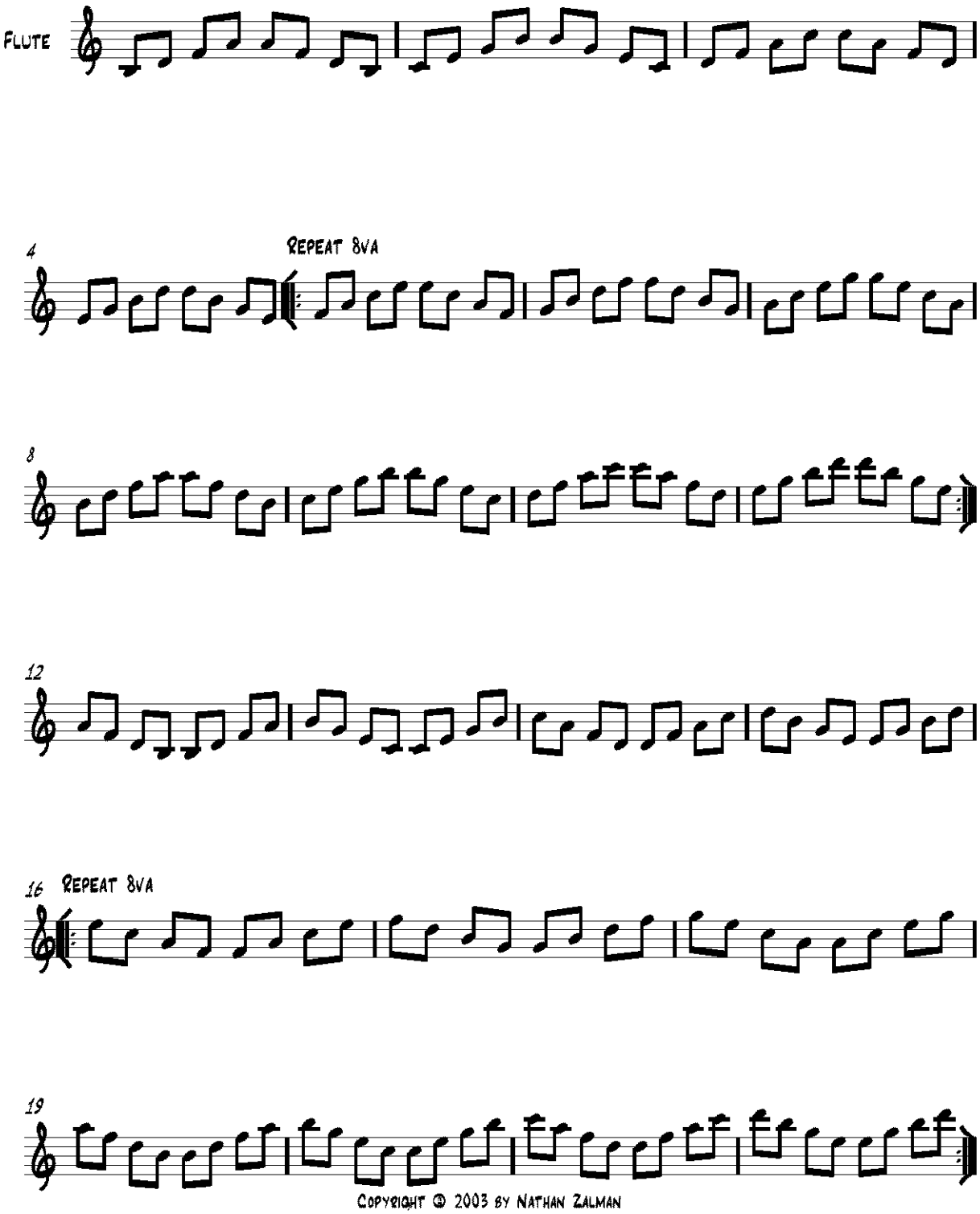
Diatonic Scale Study

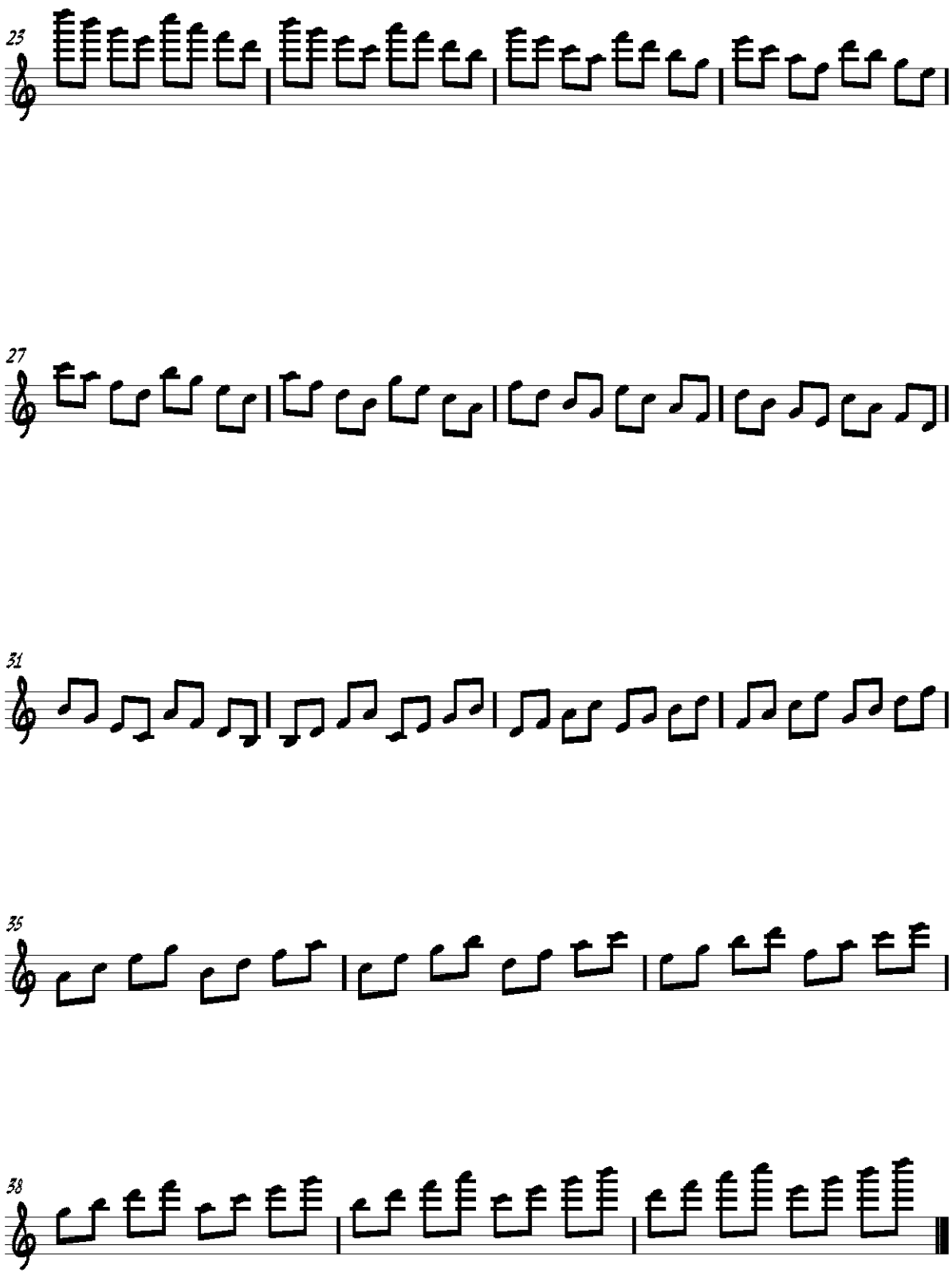
Nathan Zalman



Diatonic 7th chord Study

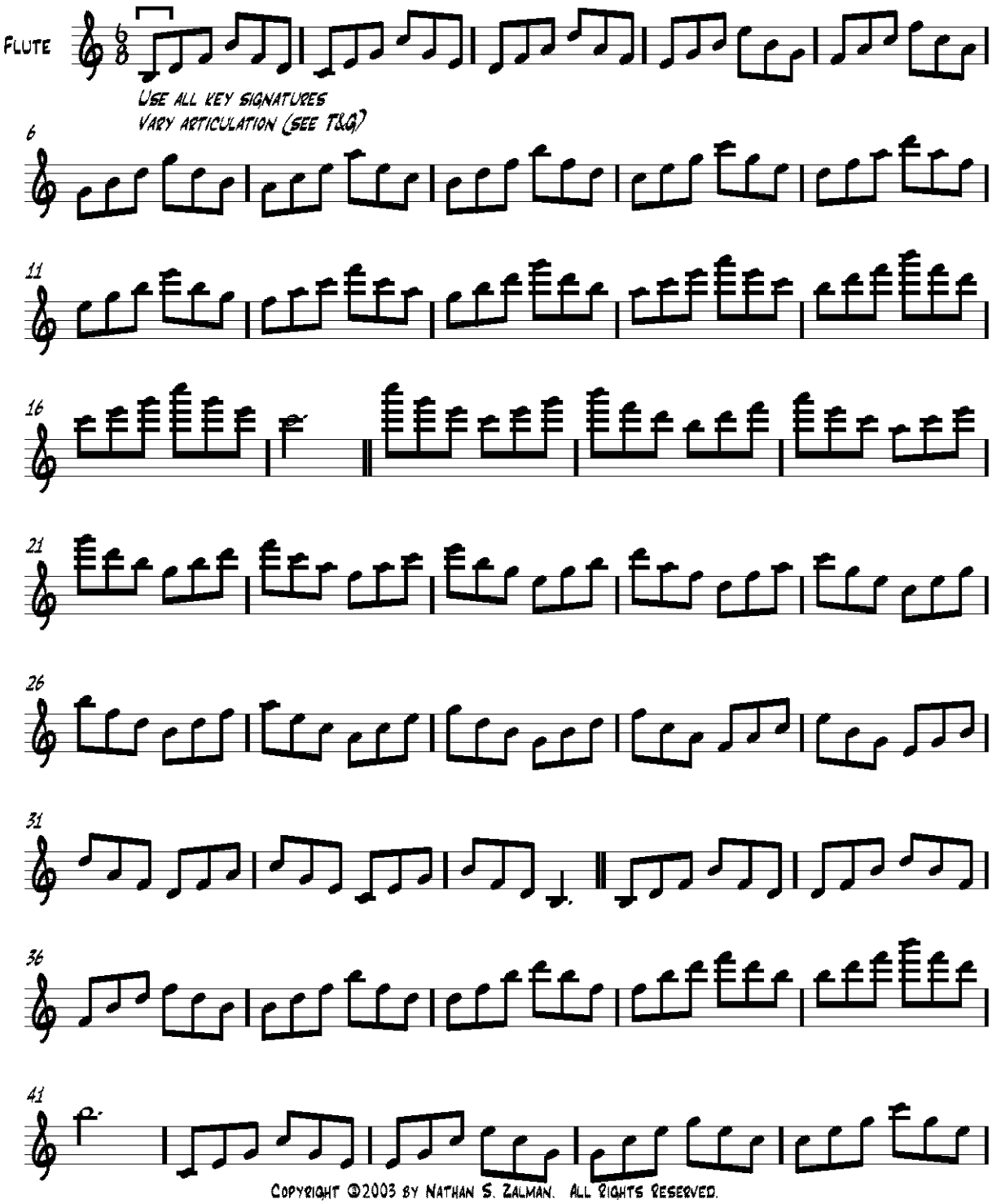
Nathan Zalman

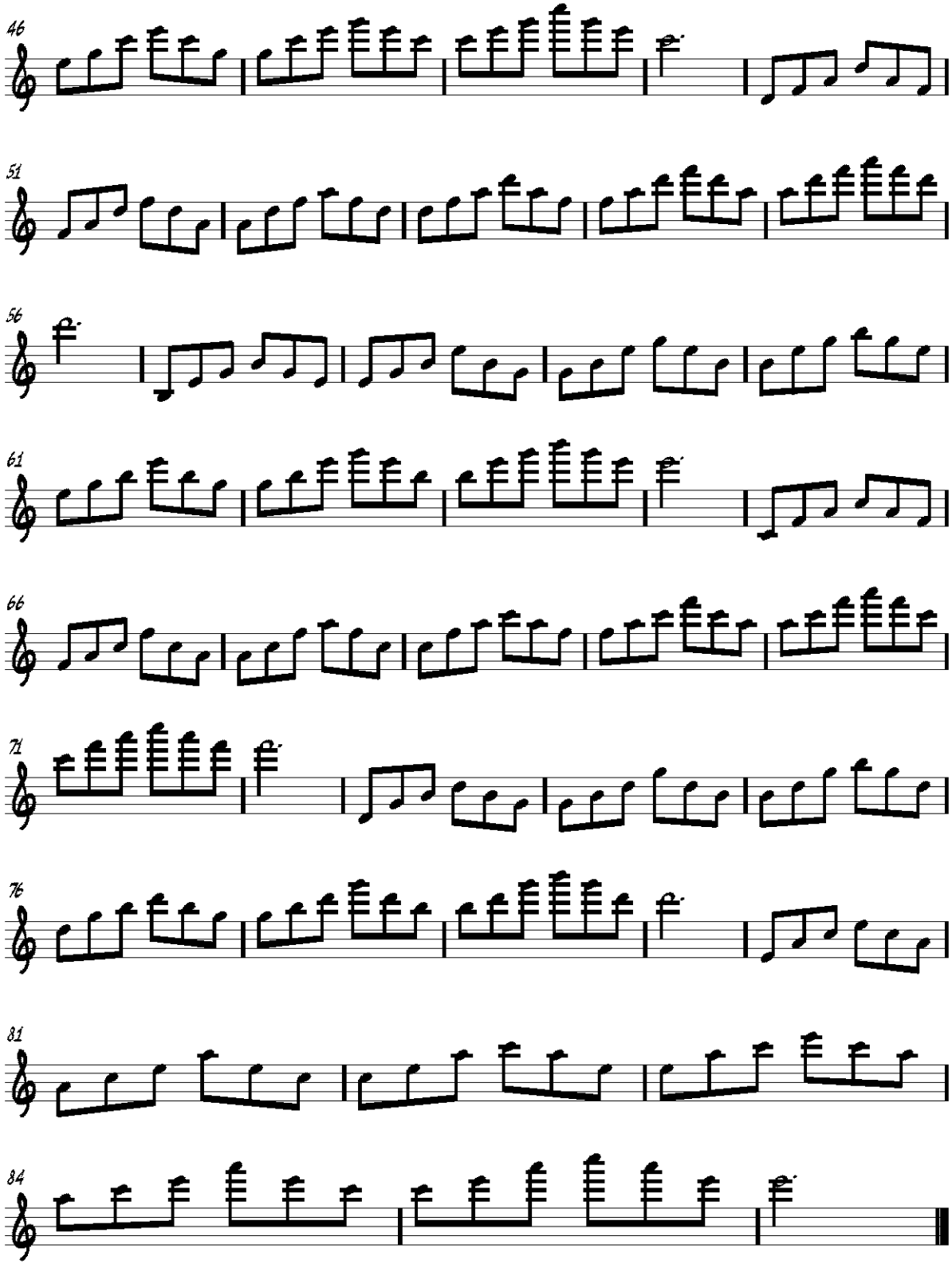



23
27
31
35
38

Diatonic Triad Study

Nathan Zalman




46
51
56
61
66
71
76
81
84

Finger Twister

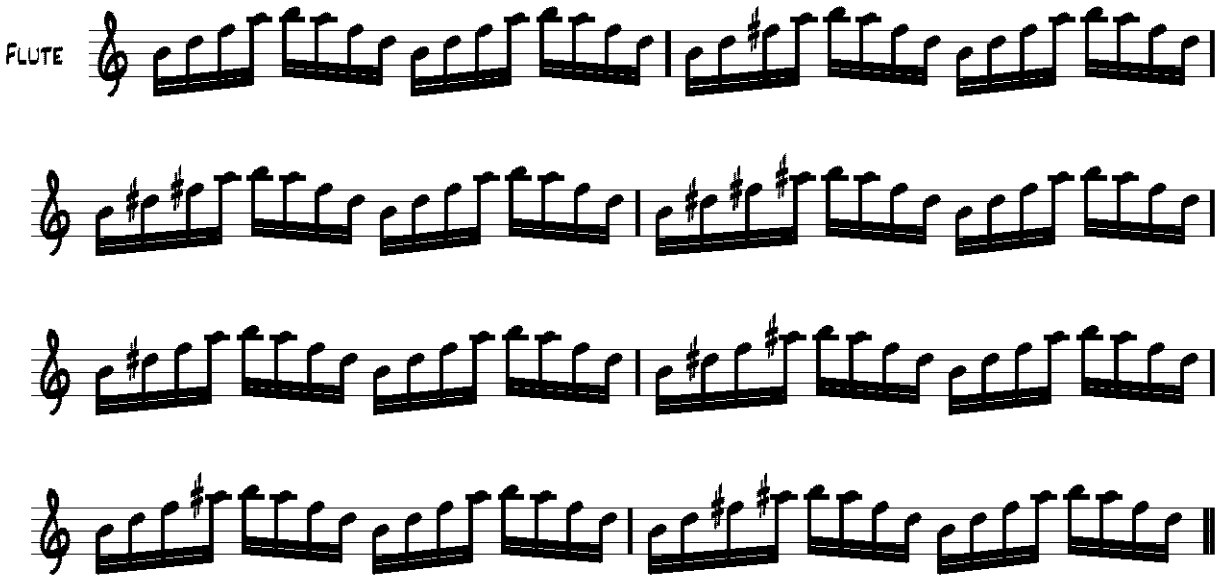
Many variations are possible by applying various rhythmic and articulation patterns (See M. Moyse Ecole de l'articulation for examples), by inverting, and by additional transpositions. The same method of working can also be applied to any finger pattern.

Practice is the repetition of perfection, and to that end it is necessary to always play with the utmost mental focus and care. Mastery is attained when perfection results without thought. -NZ

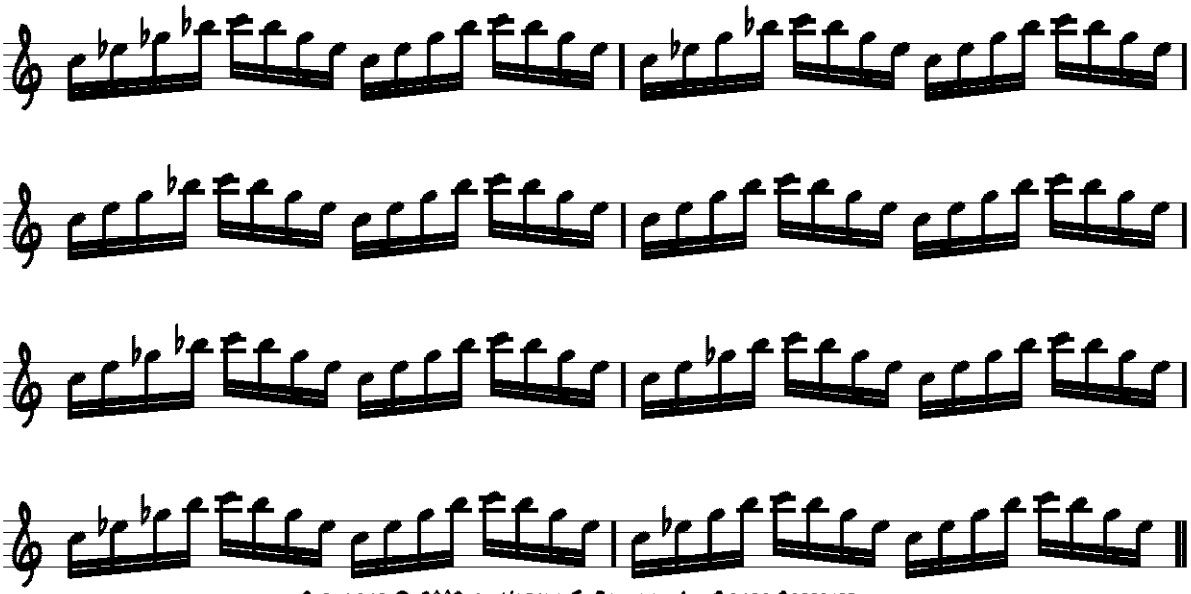
Part One.

Nathan Zalman

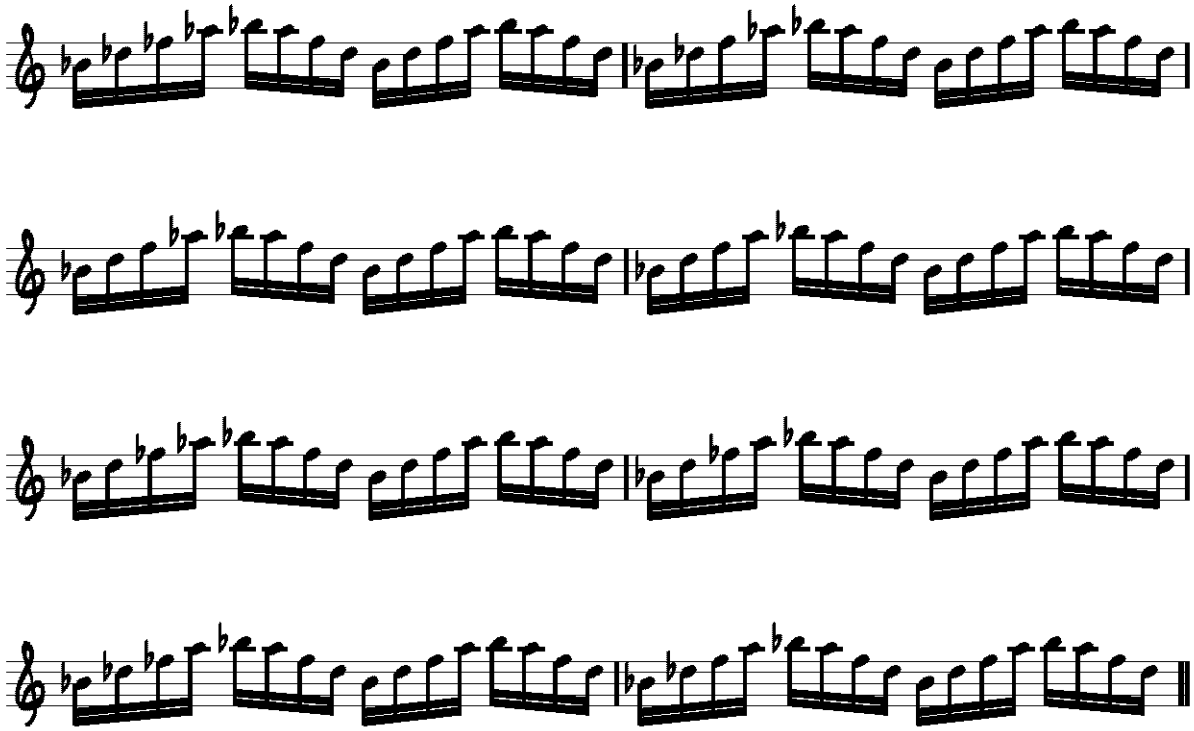
1. Also 8va & 8va Basso



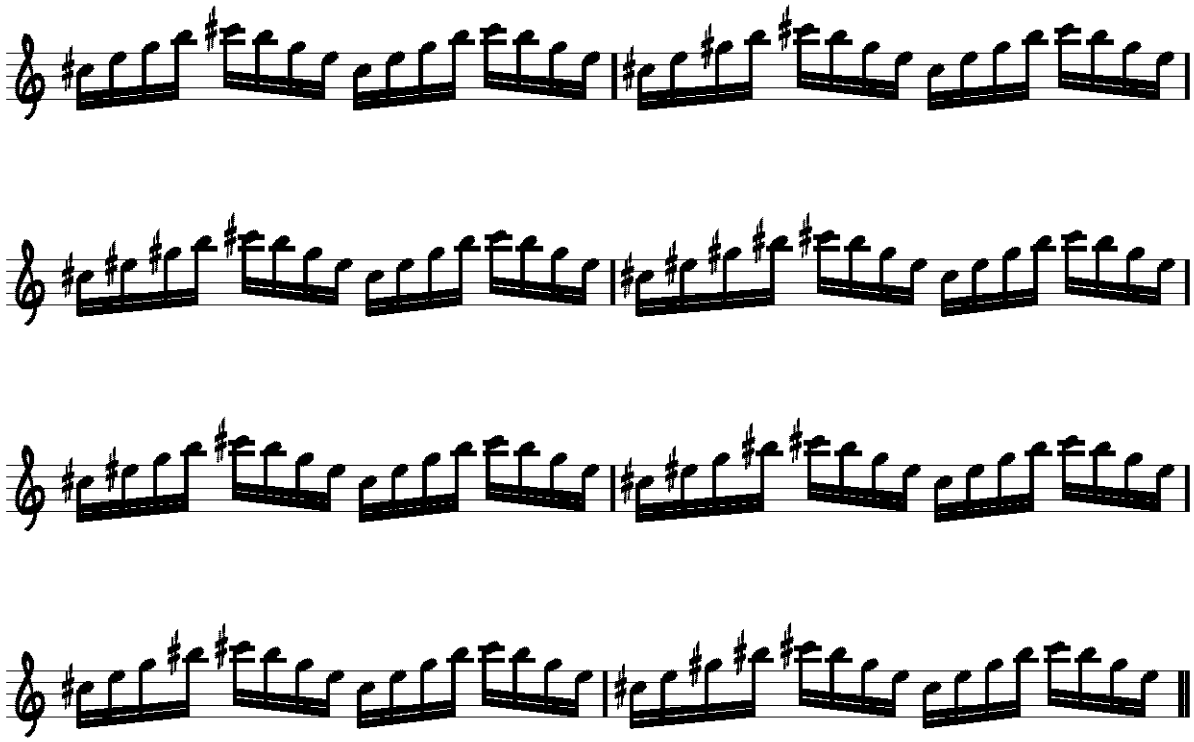
2. Also 8va & 8va Basso



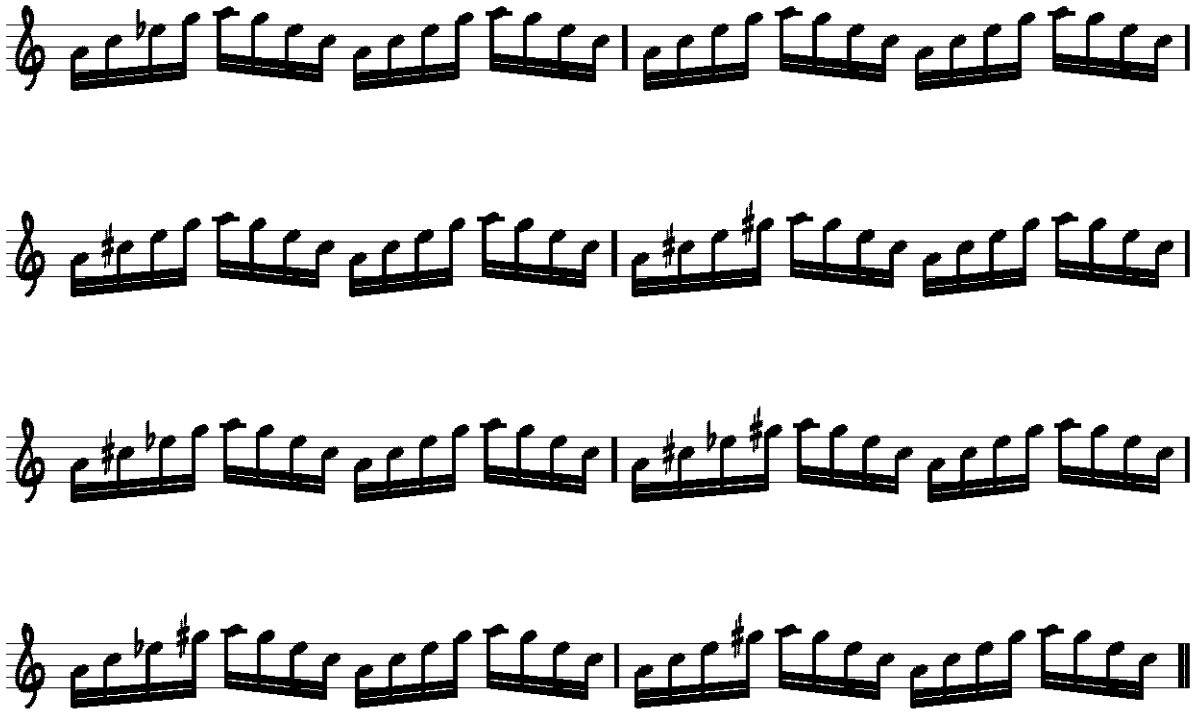
3. Also 8va



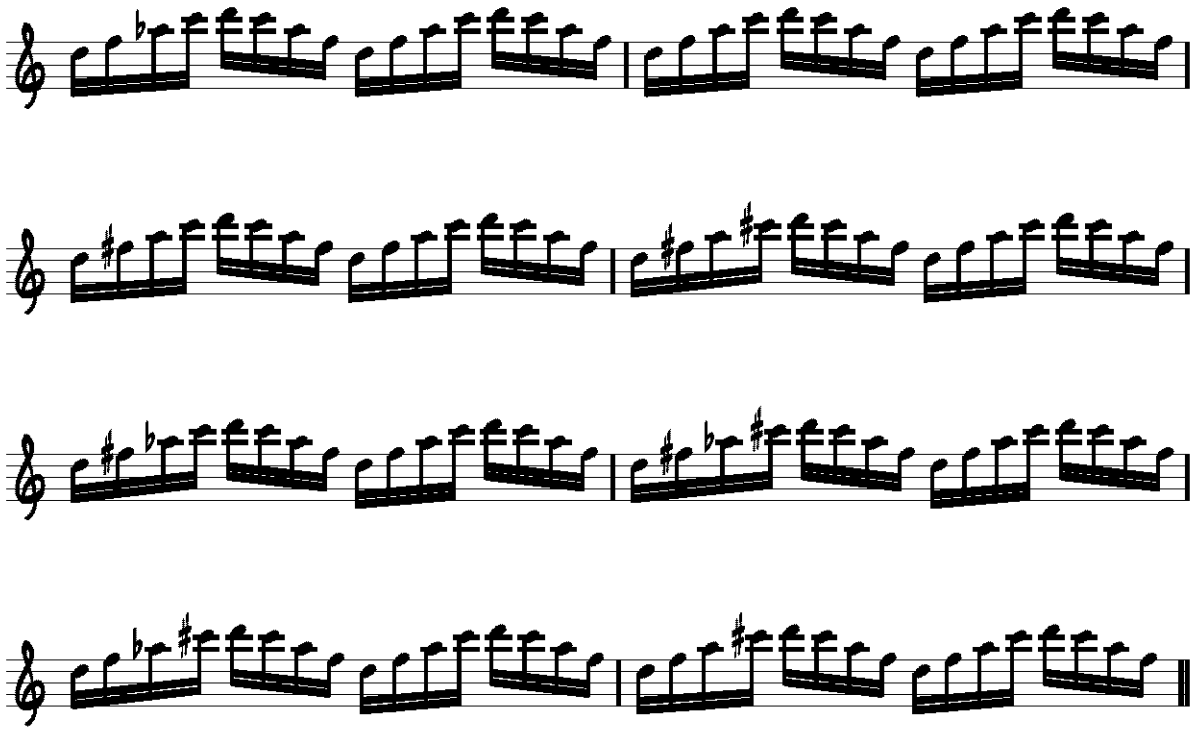
4. Optionally also 8va. Also 8va Basso



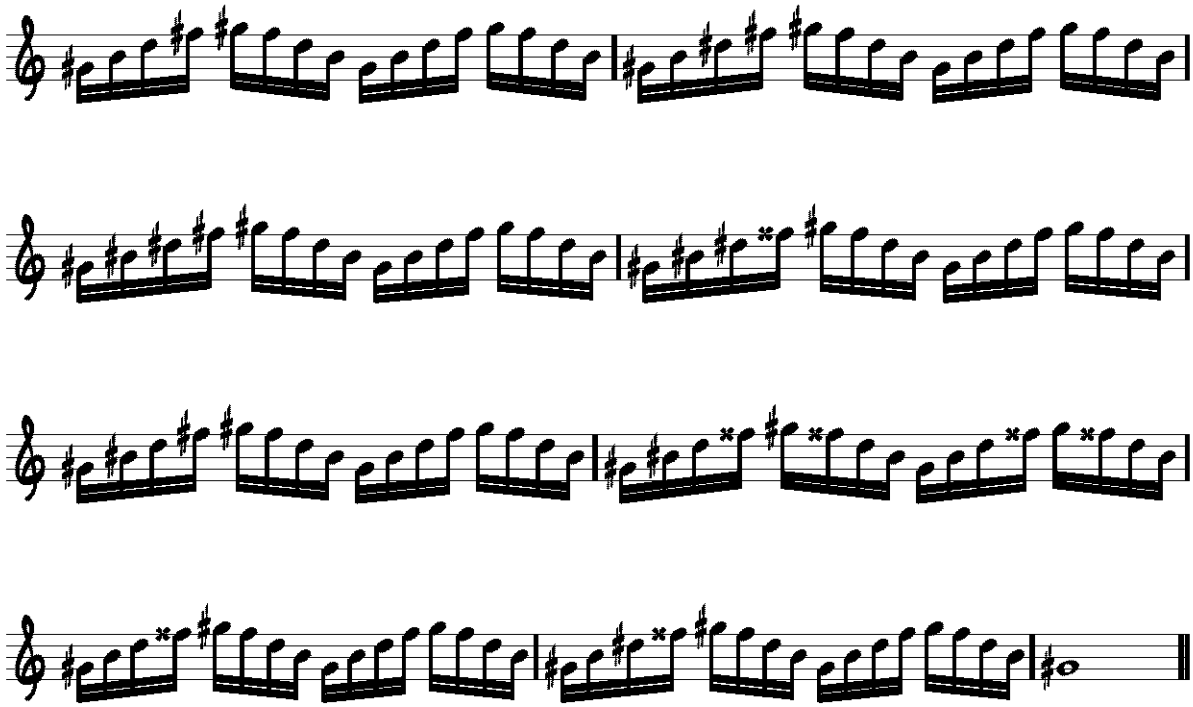
5. Also 8va



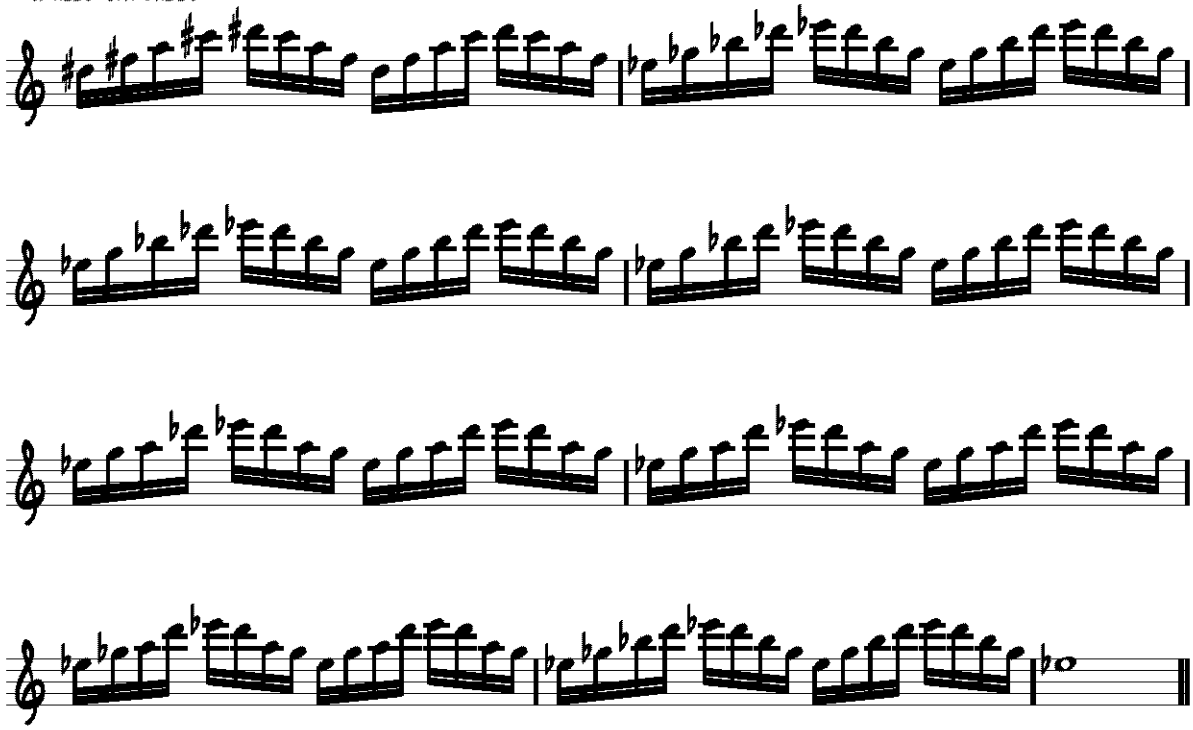
6. Optionally also 8va. Also 8va Basso



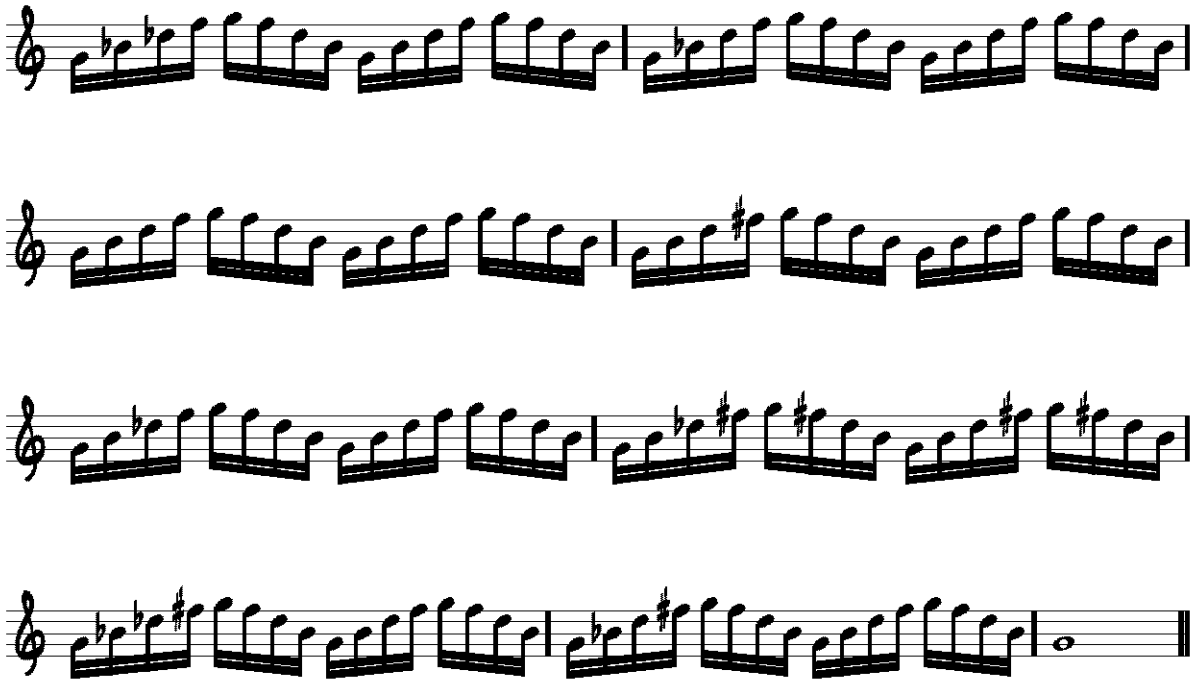
7. Also 8va



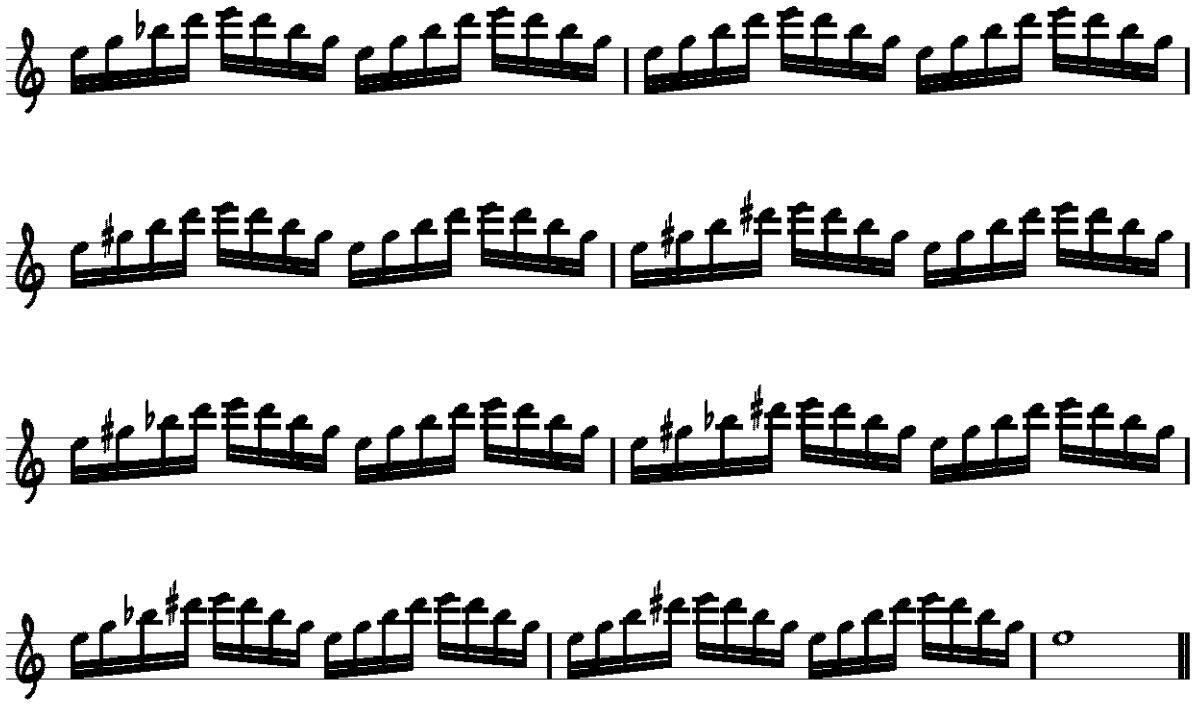
8. also 8va Basso



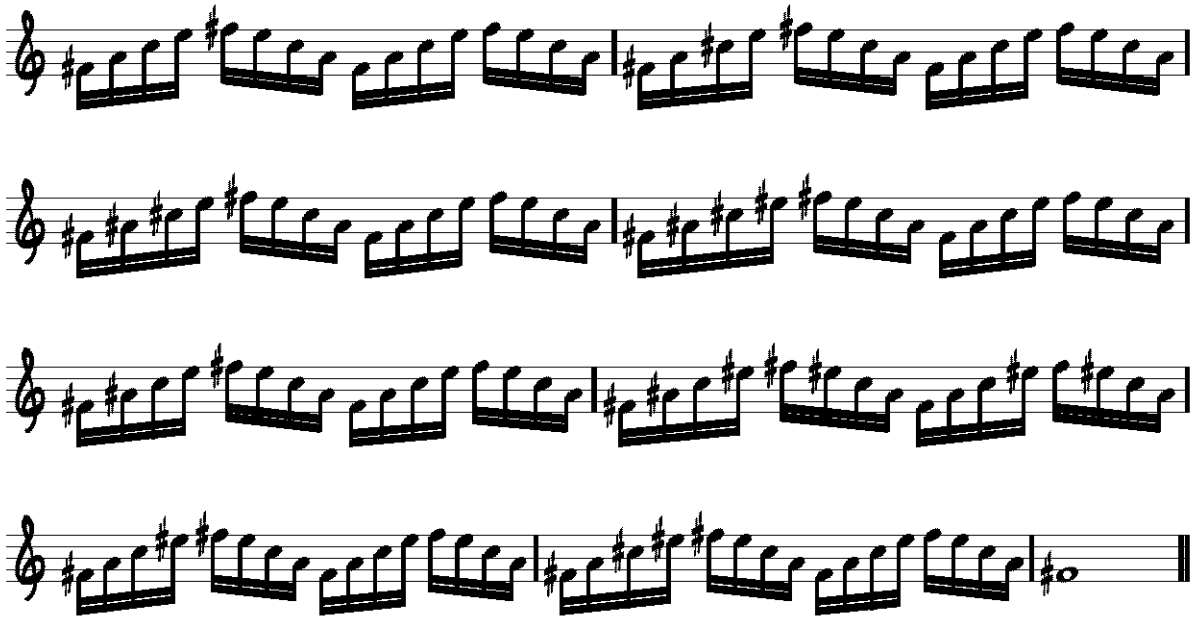
9. Also 8va



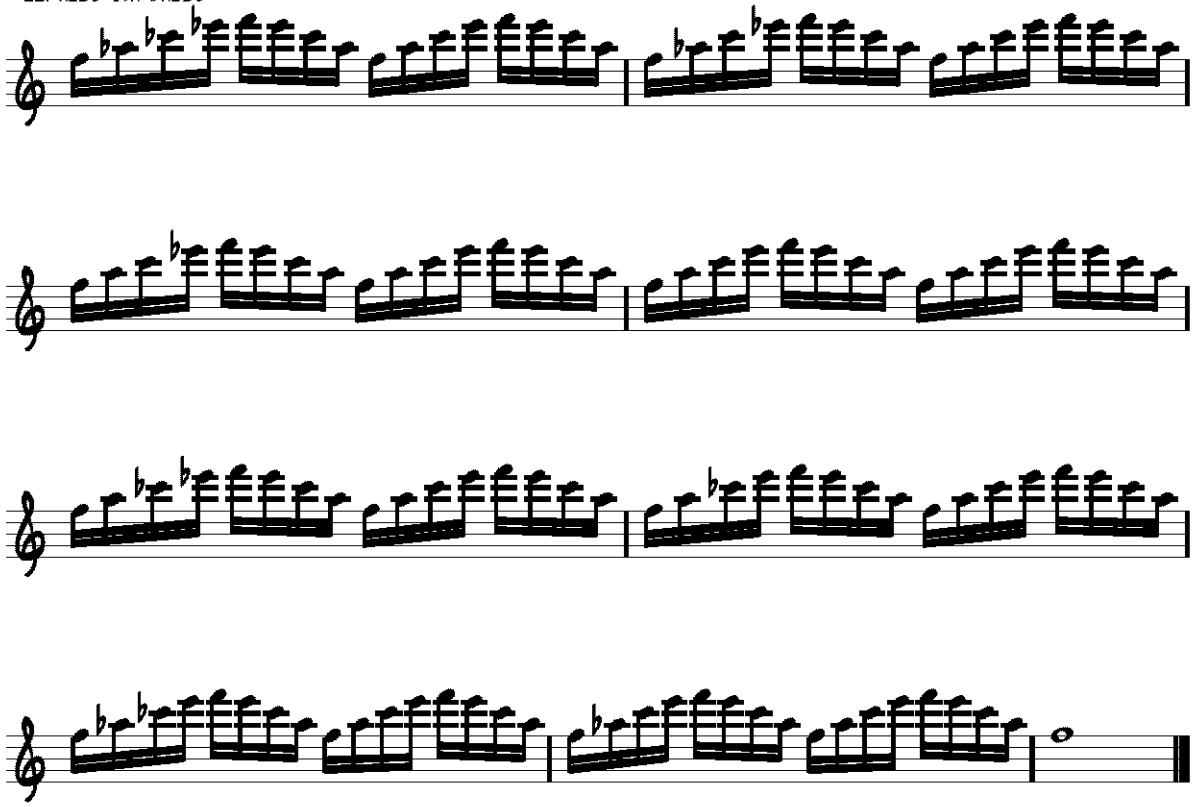
10. also 8va Basso



11. Also 8va

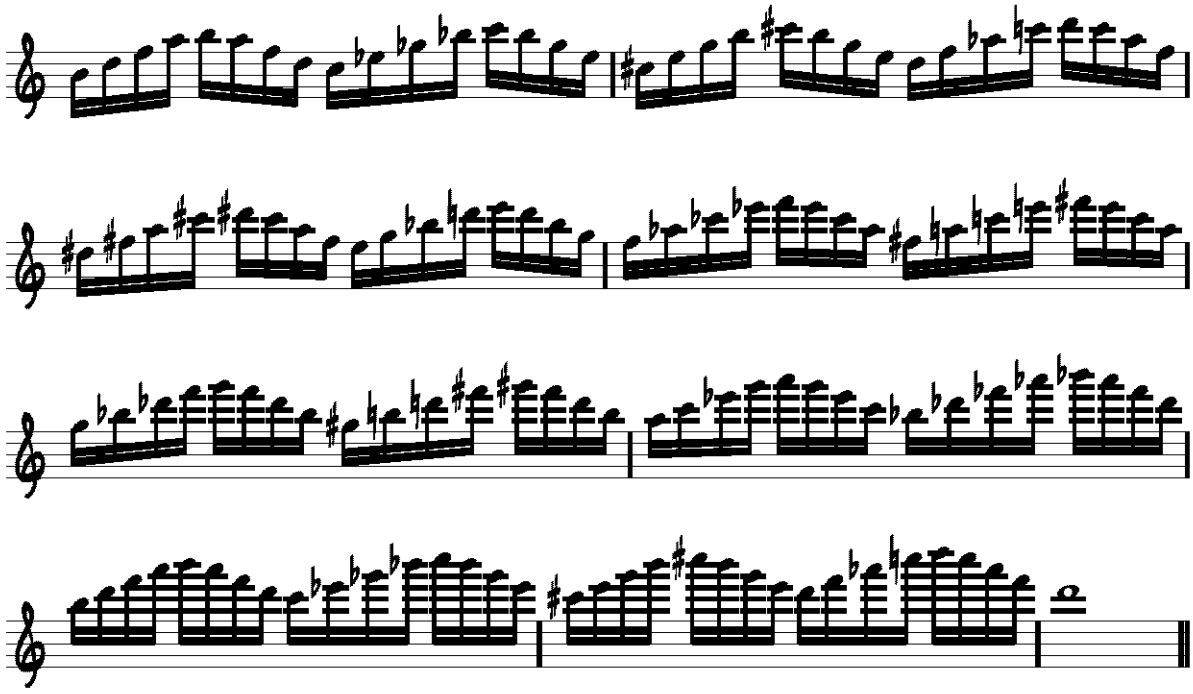


12. also 8va Basso

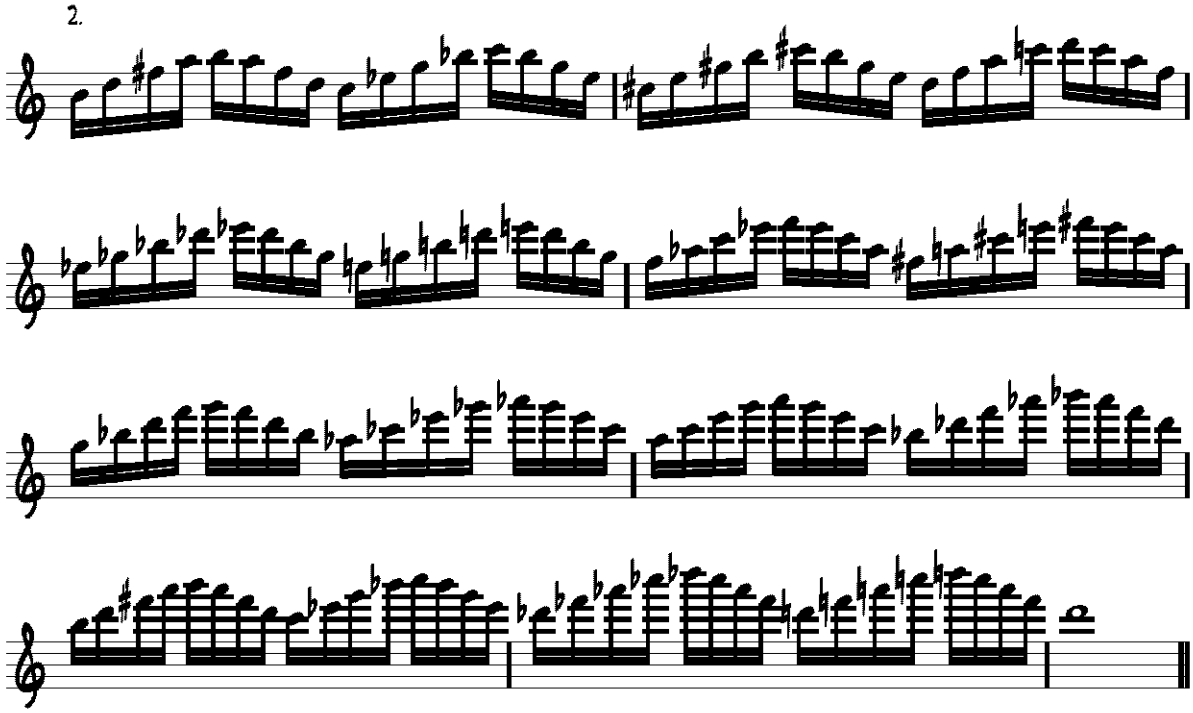


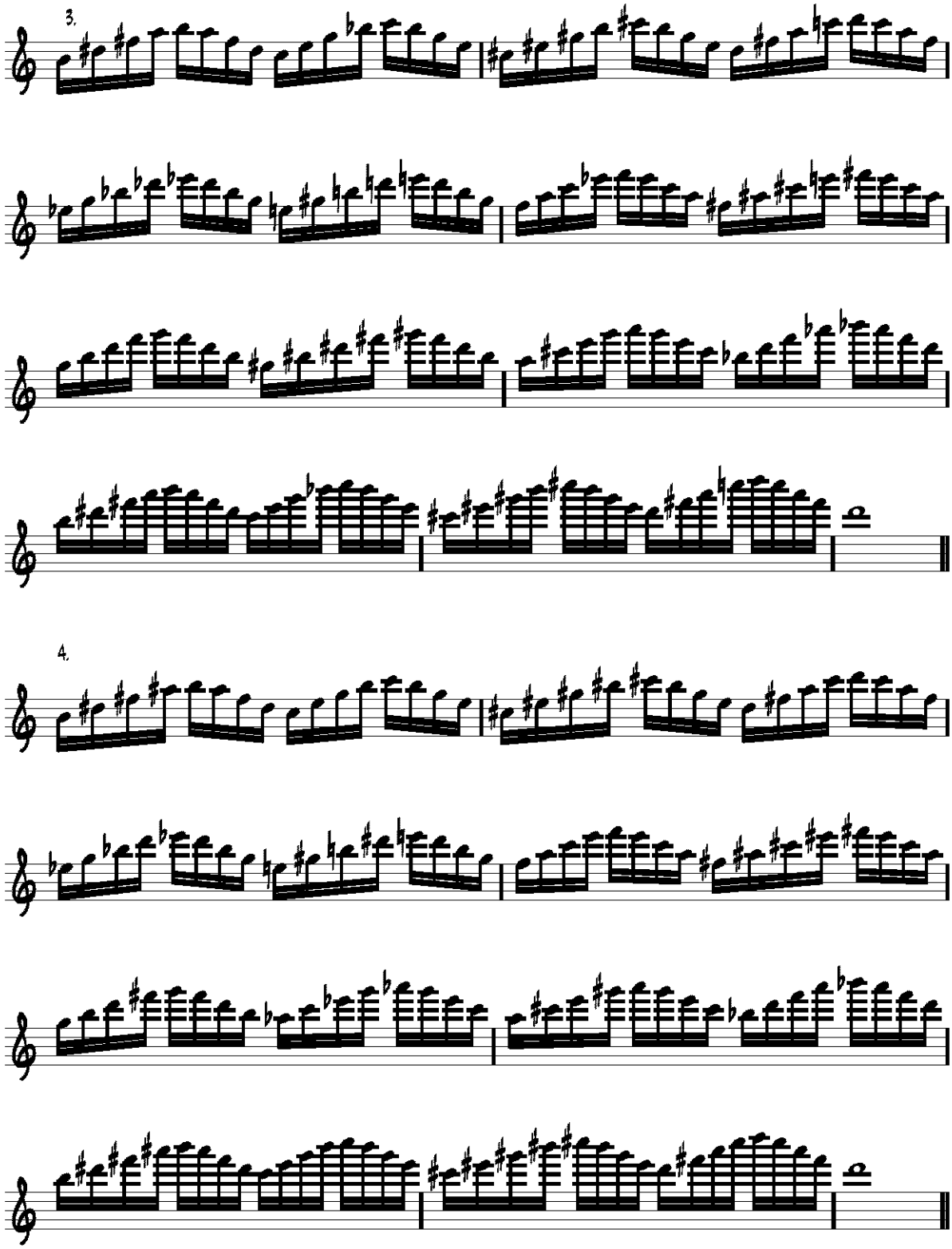
Part Two.

1.

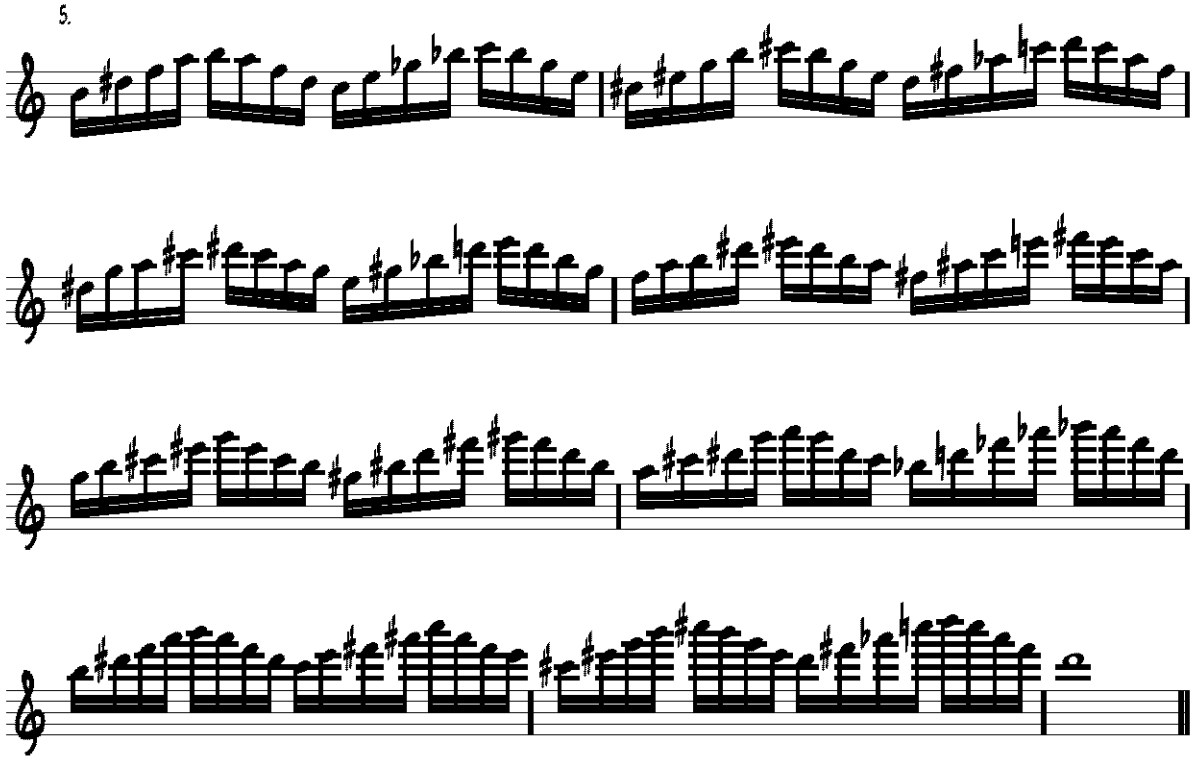


2.




3.
4.

5.



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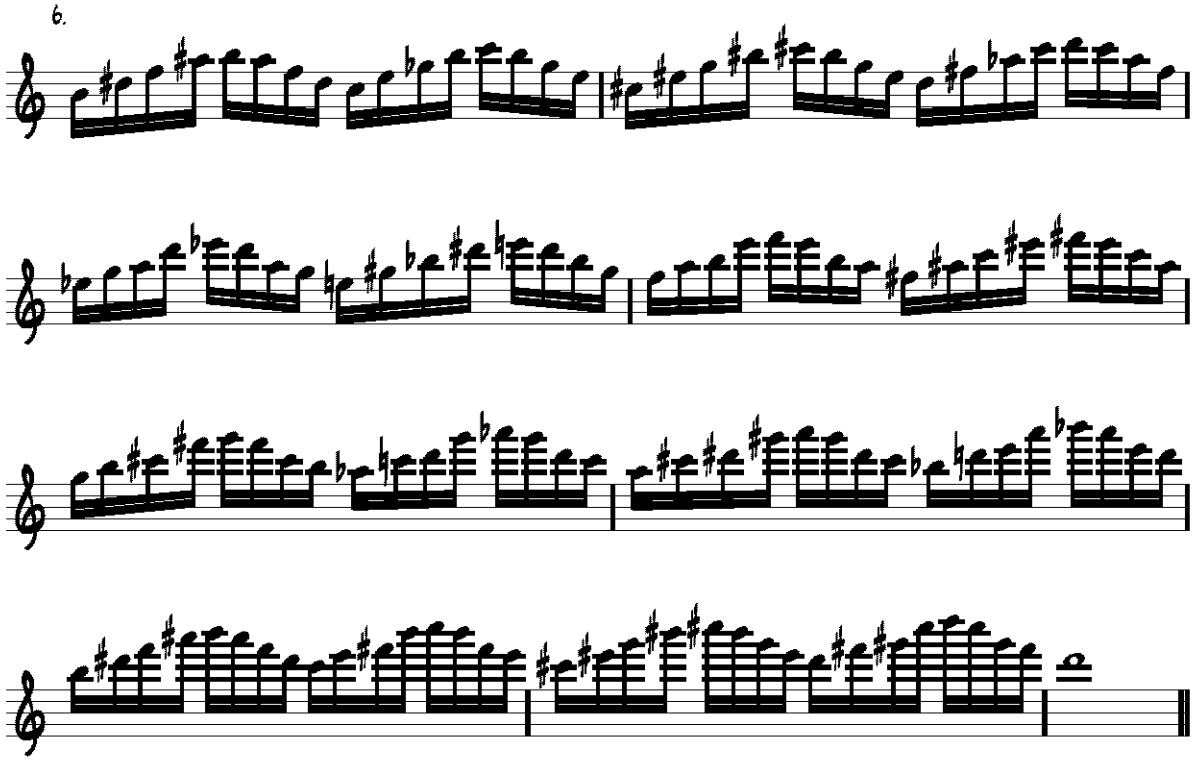
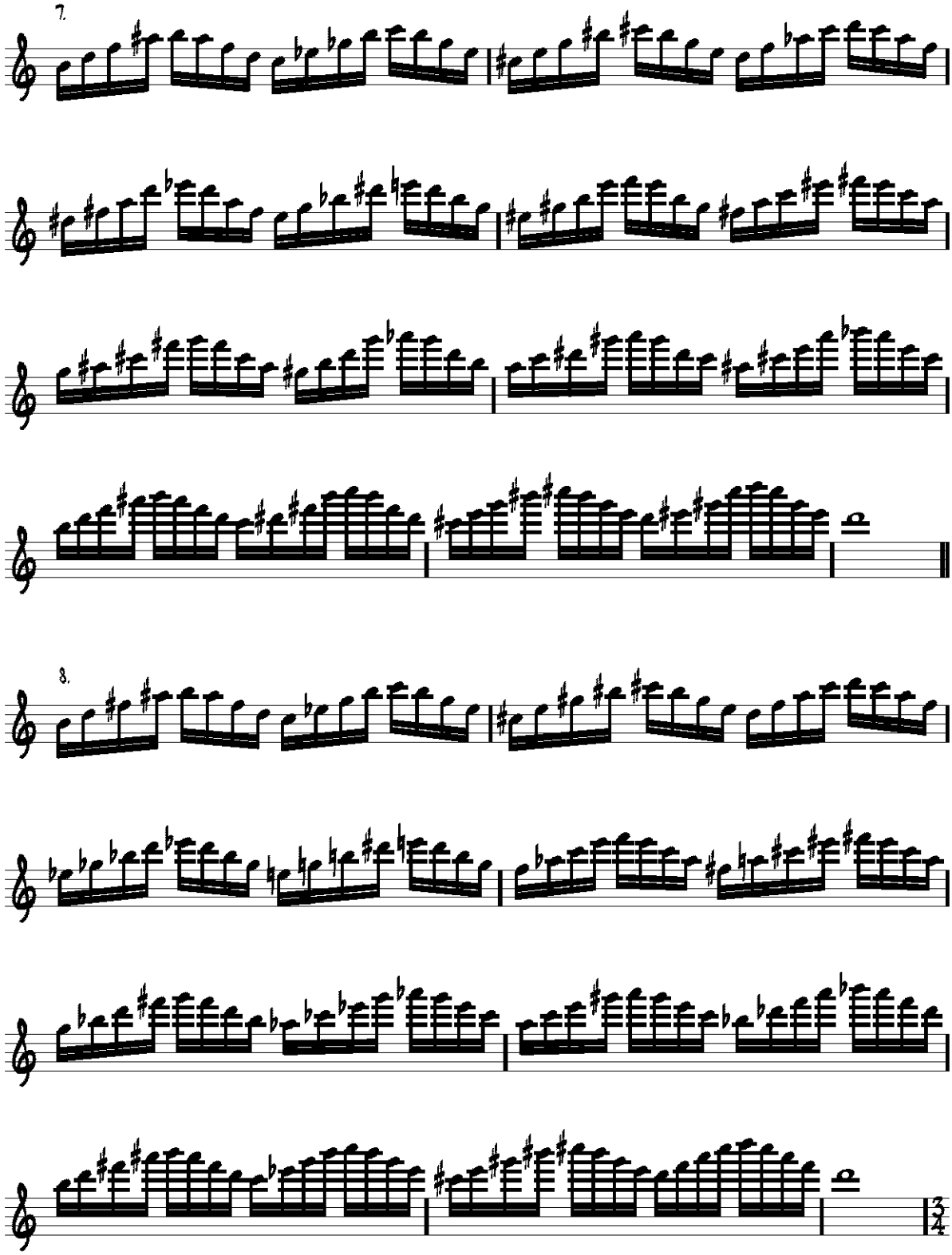
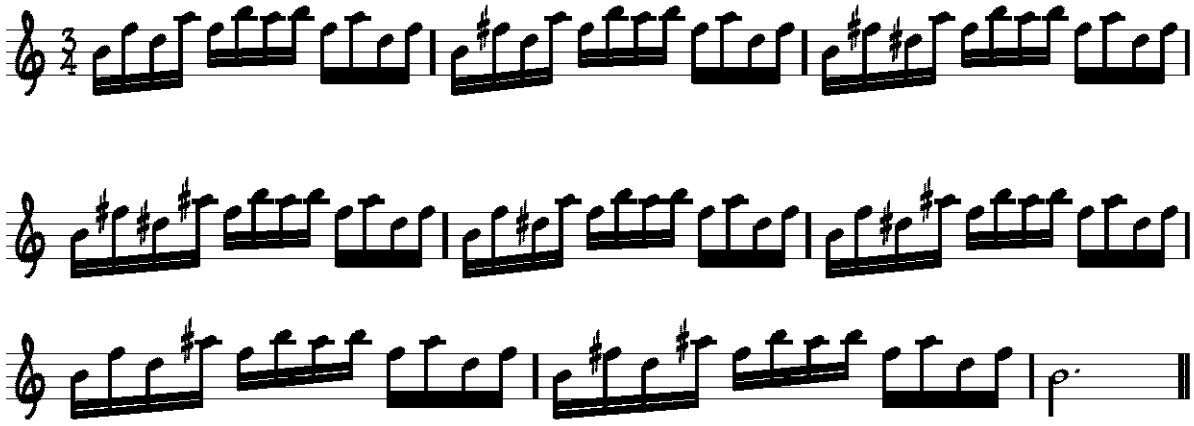


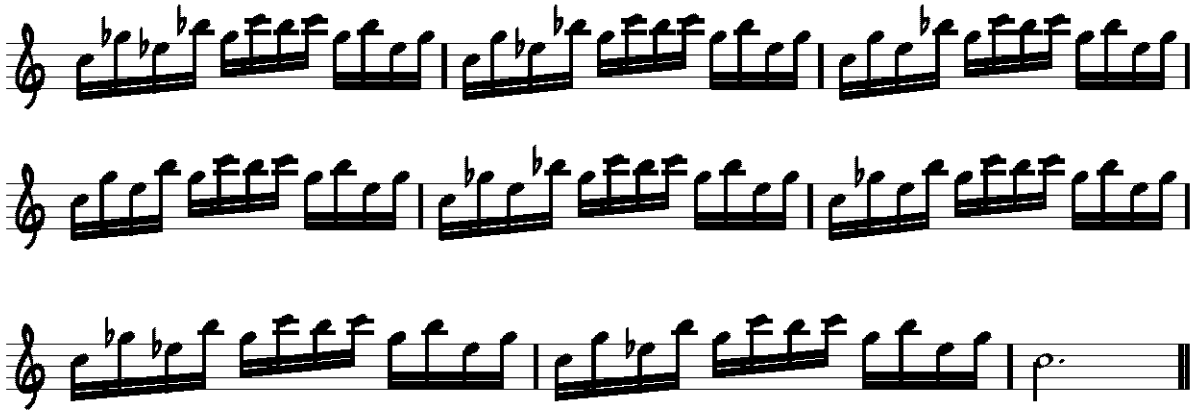

7.
8.

Part Three.

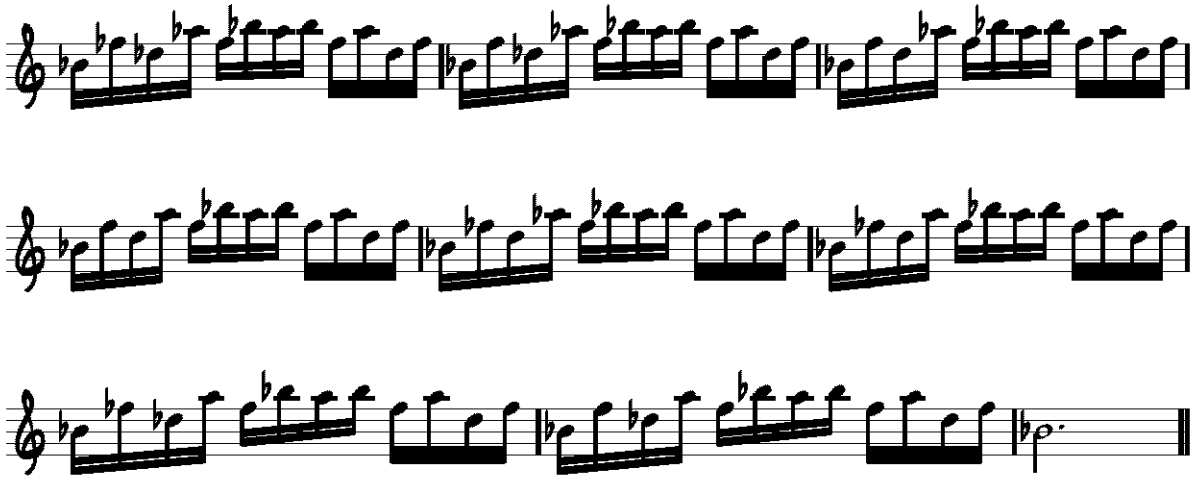
1. Also 8va & 8va Basso



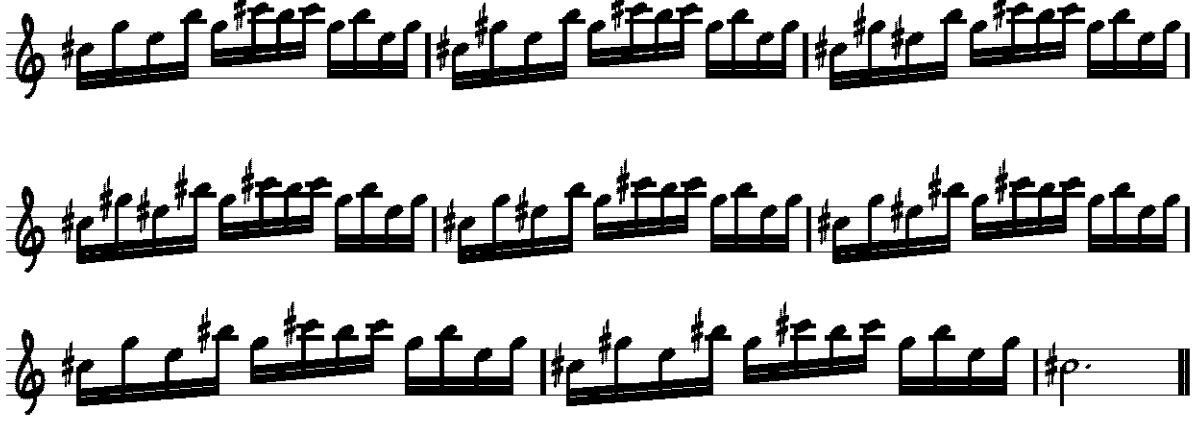
2. Also 8va & 8va Basso



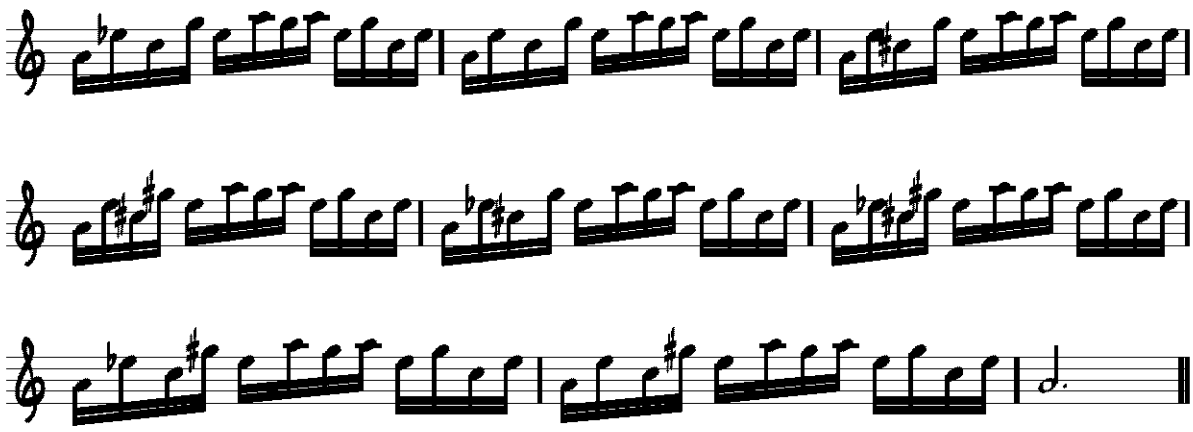
3. Also 8va & 8va Basso



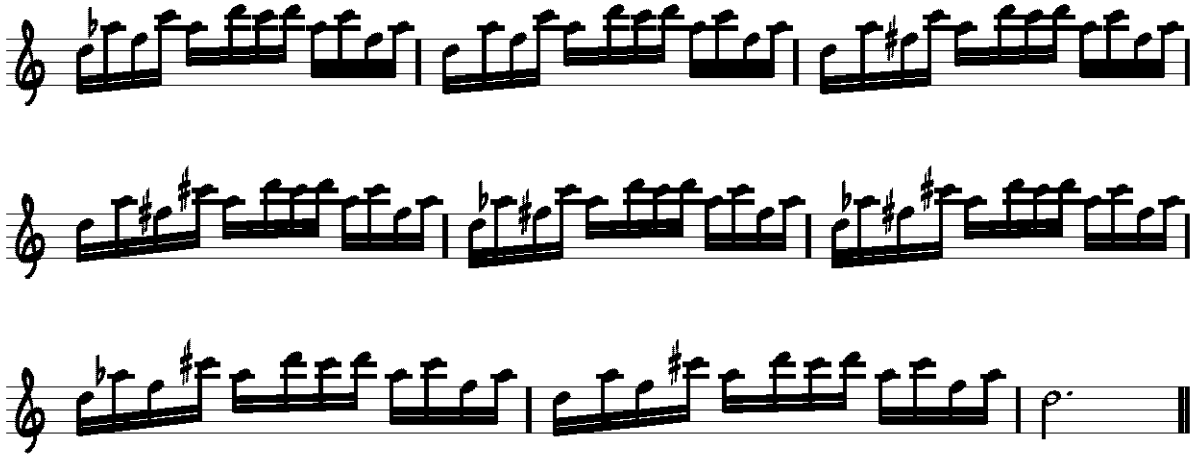
4. Optionally 8va & 8va Basso



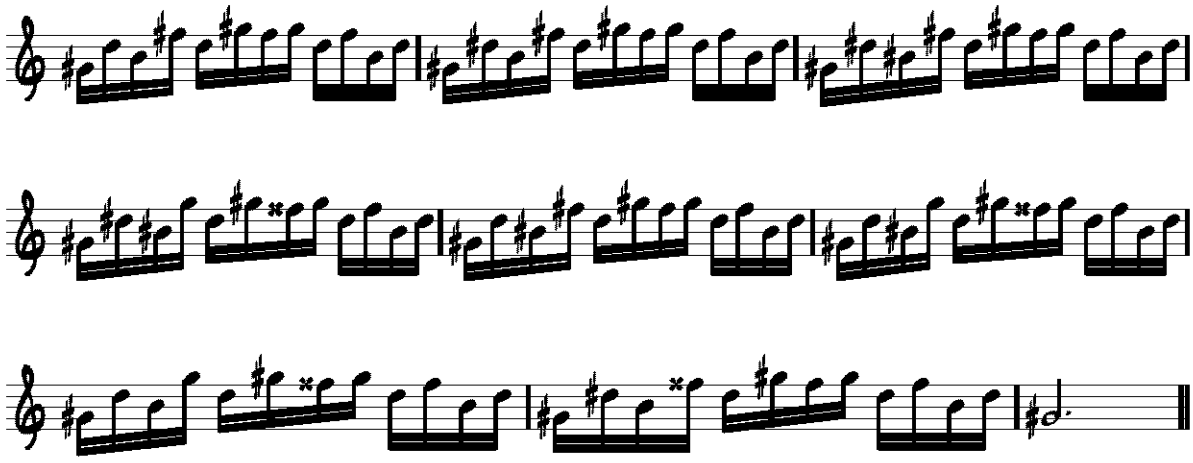
5. Also 8va



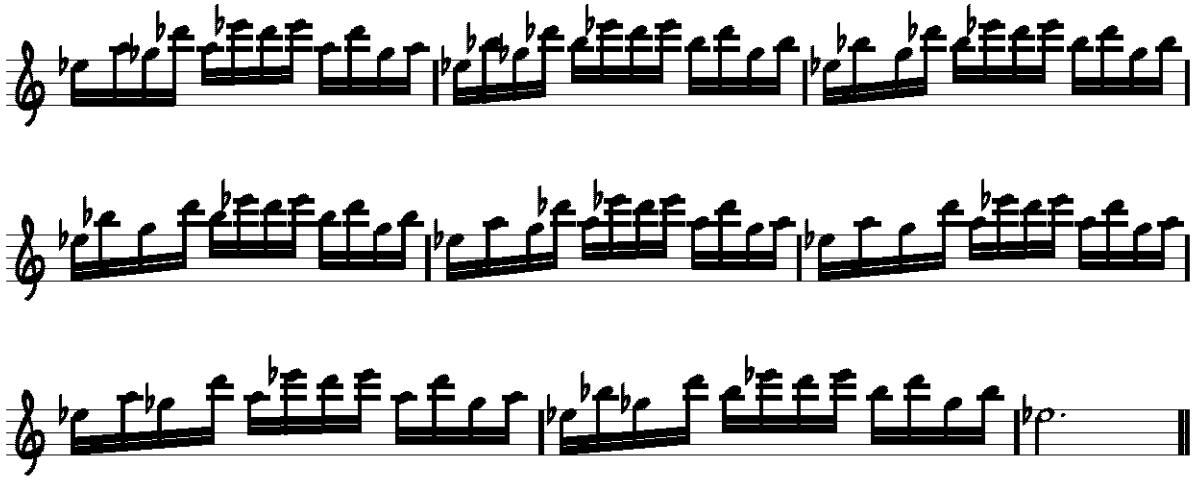
6. Optionally 8va & 8va Basso



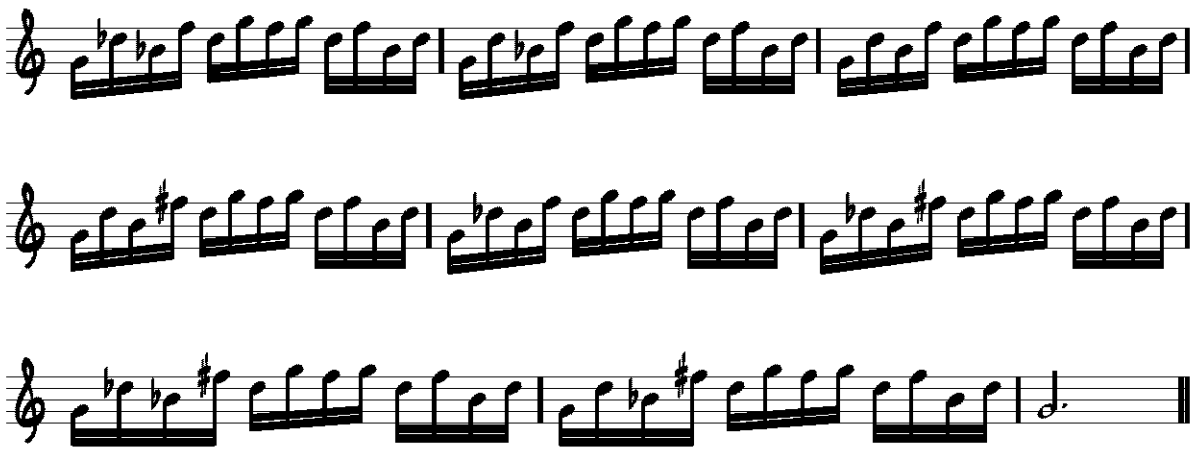
7. Also 8va



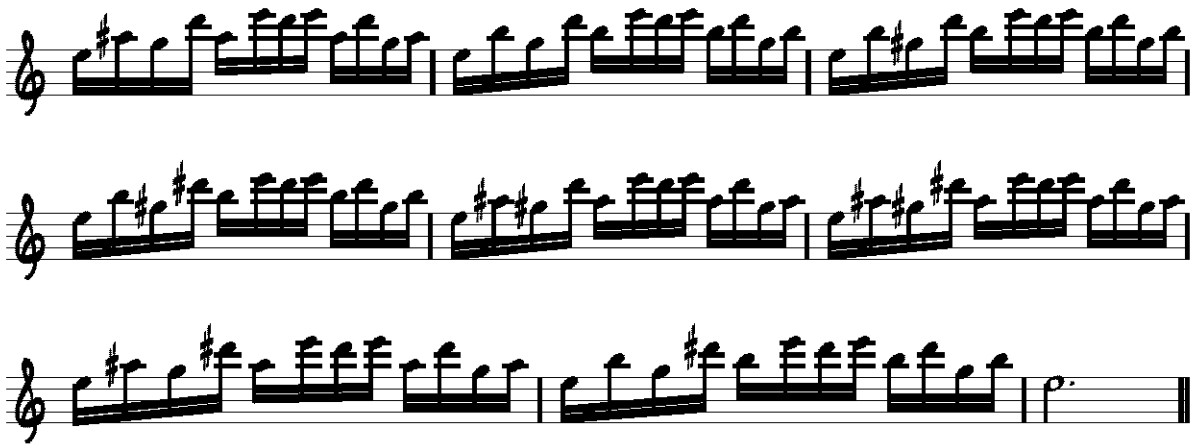
8. Also 8va Basso



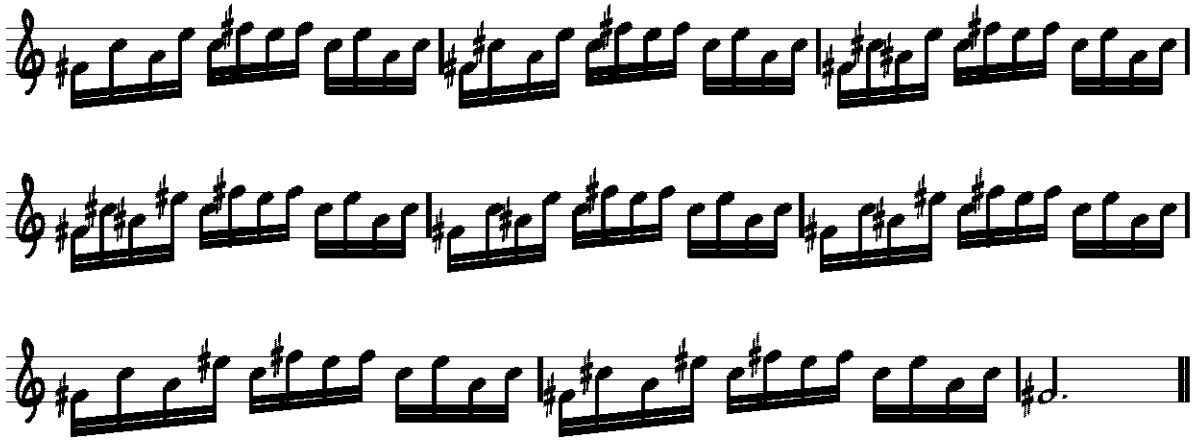
9. Also 8va



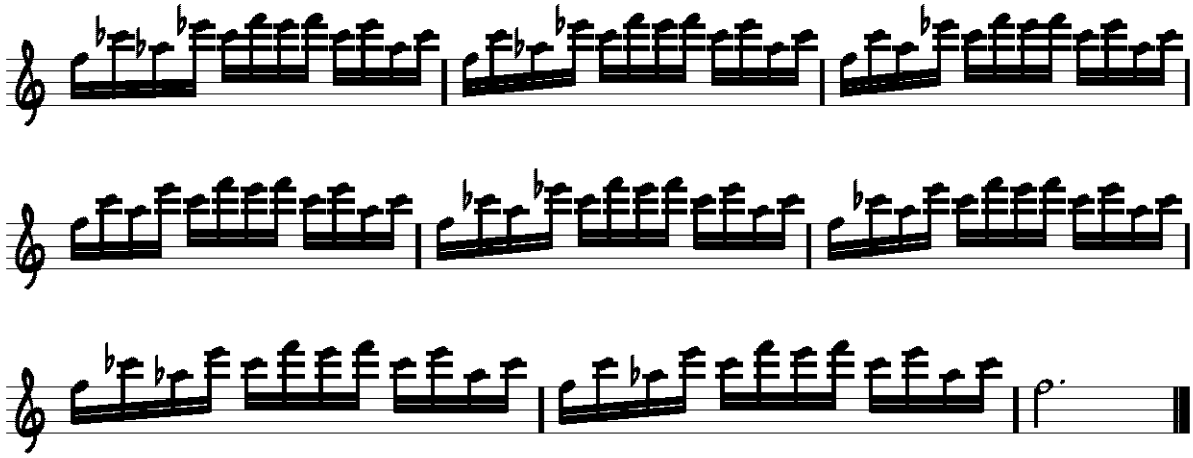
10. Also 8va Basso



11. Also 8va



12. Also 8va Basso

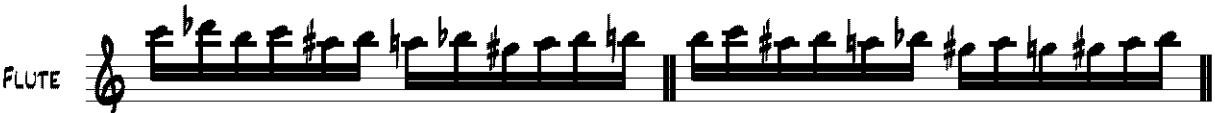


Finger Twister #2

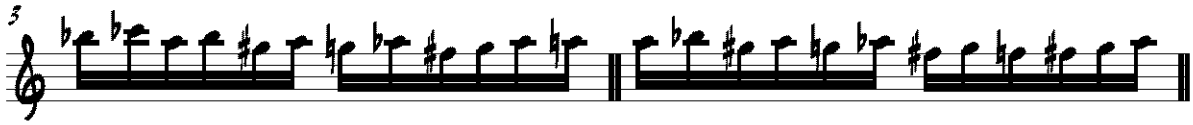
Nathan Zalman

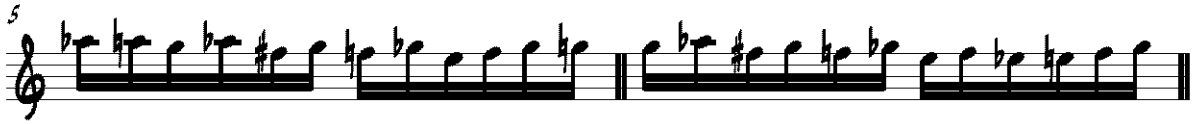
8va and loco

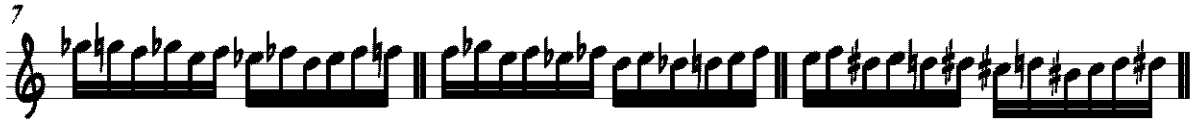
Flute

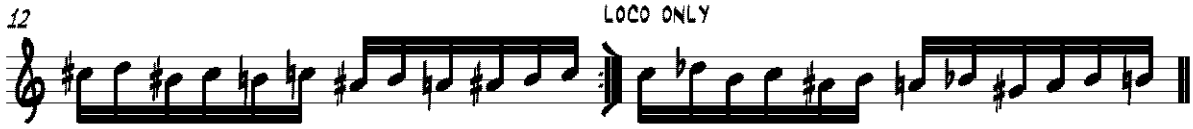


repeat each bar 4 times. Vary the articulation, but all slurred at first.

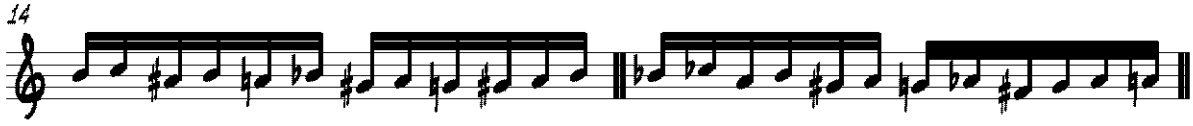


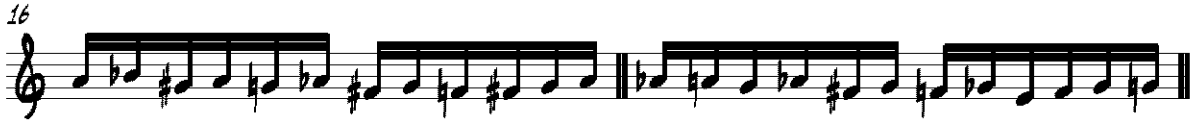


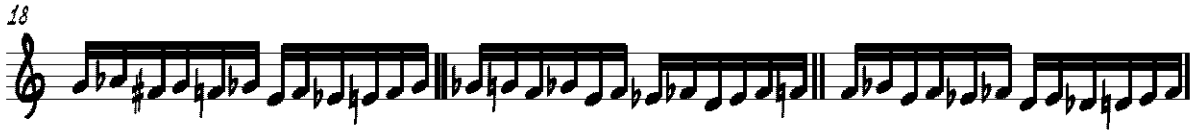


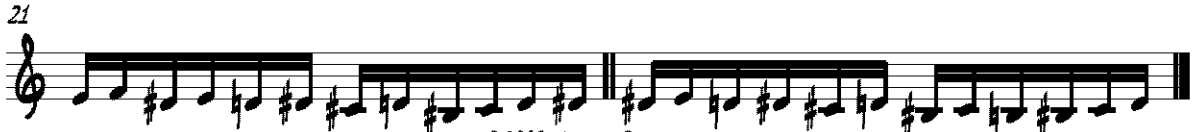


loco only





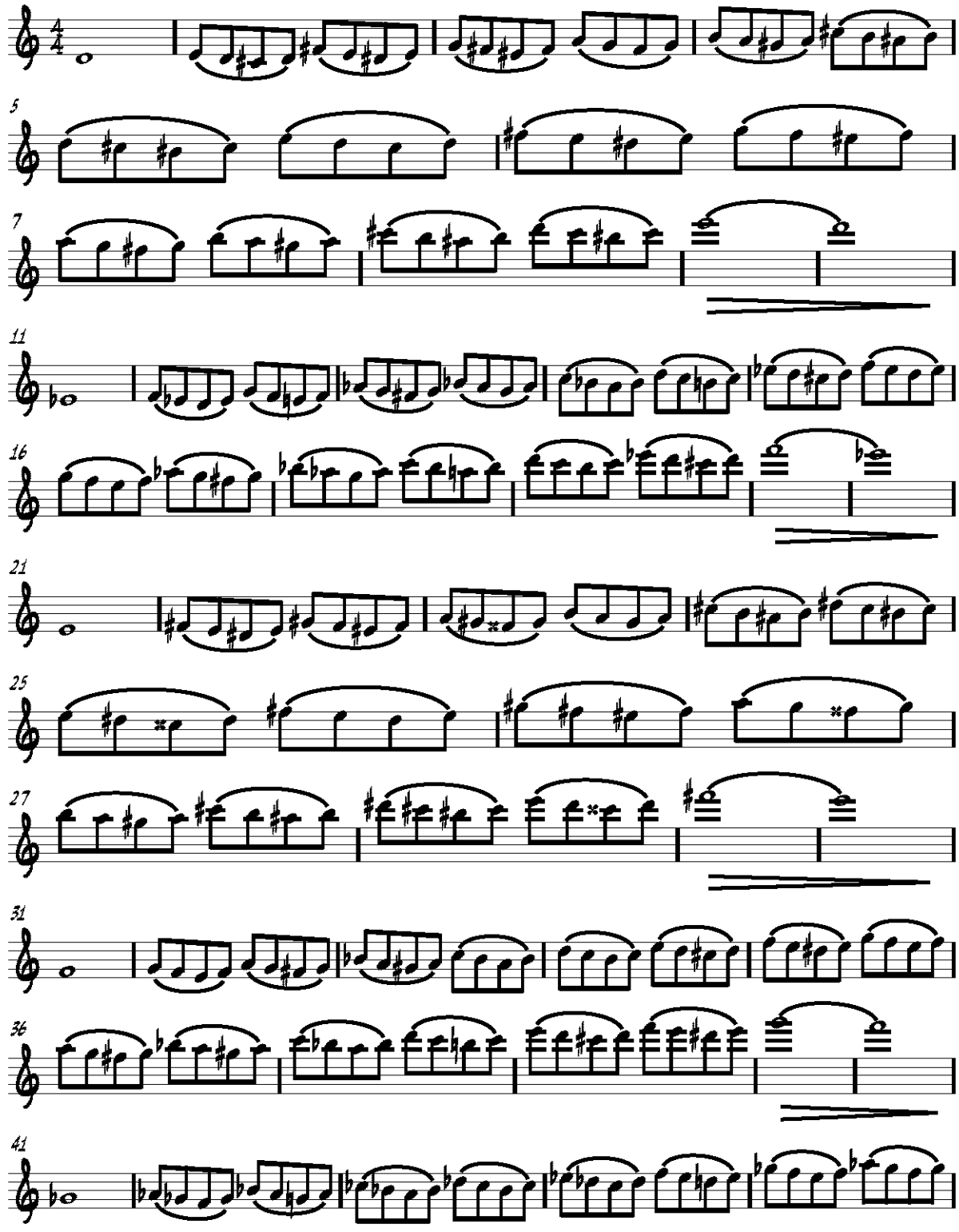


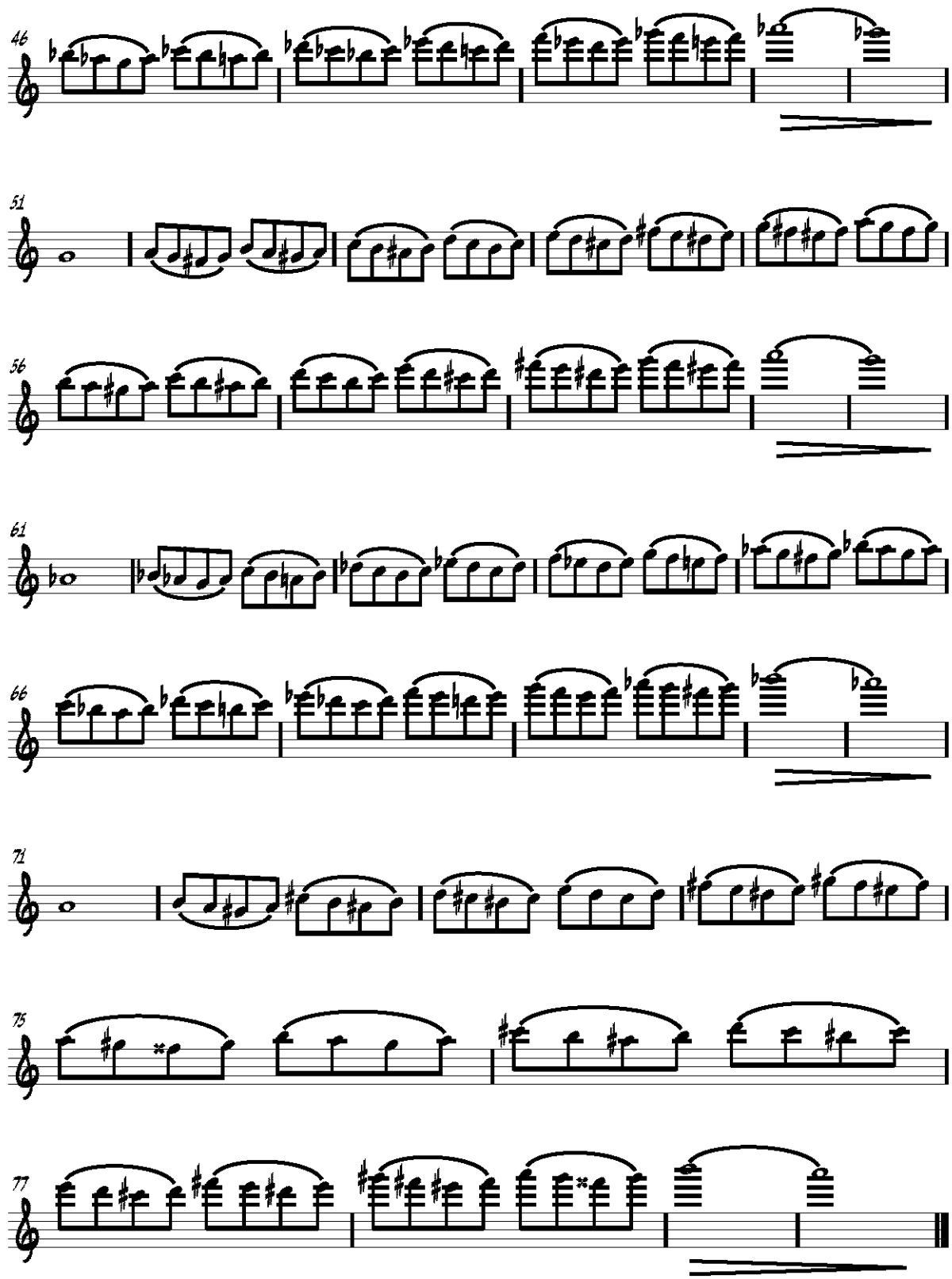


High But Mellow (after Taffanel)

Nathan Zalman

Slowly



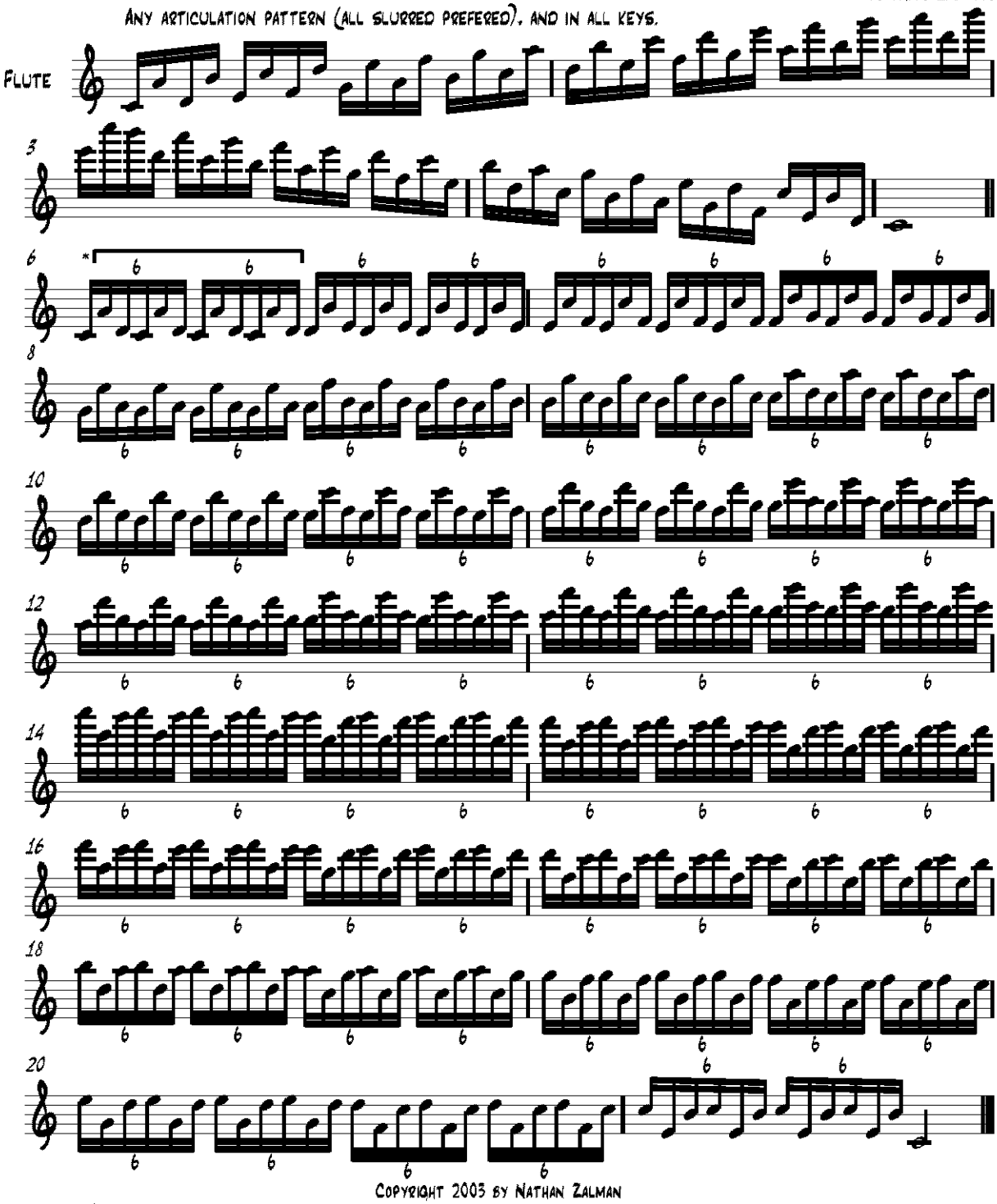

46
51
56
61
66
71
75
77

The Interval Terminator

This exercise is an instance of a practice pattern for improving and "burning in" the difficult finger and embouchure demands found in simple interval scale patterns. The example here is drawn from Moyse "Exercises Journaliers", pattern "M", but can be applied to any note sequence, both forward and in reverse (not shown).

Nathan Zalman

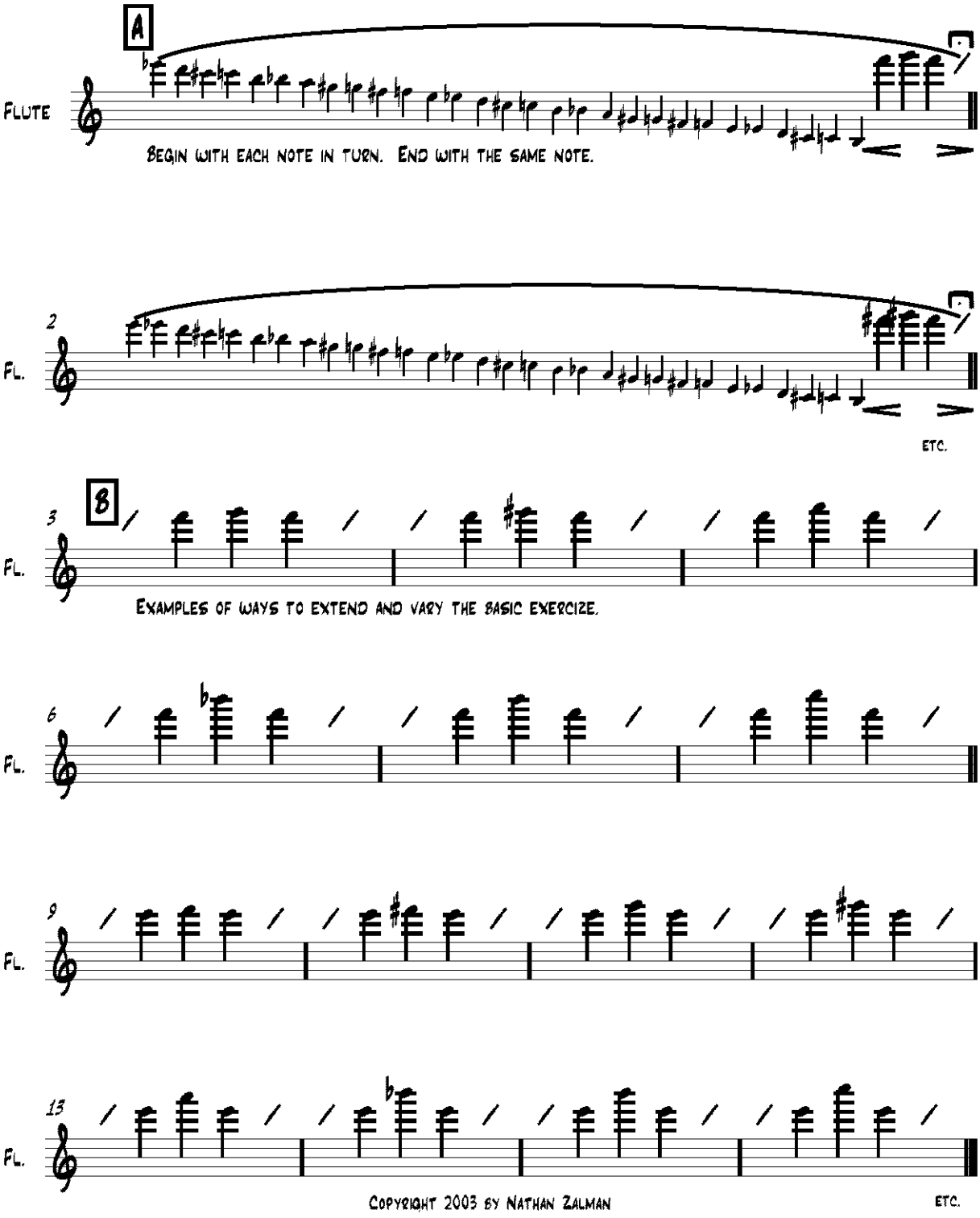
Any articulation pattern (all slurred prefered), and in all keys.



* As many repetitions of the three-note pattern as necessary

Lip Presses

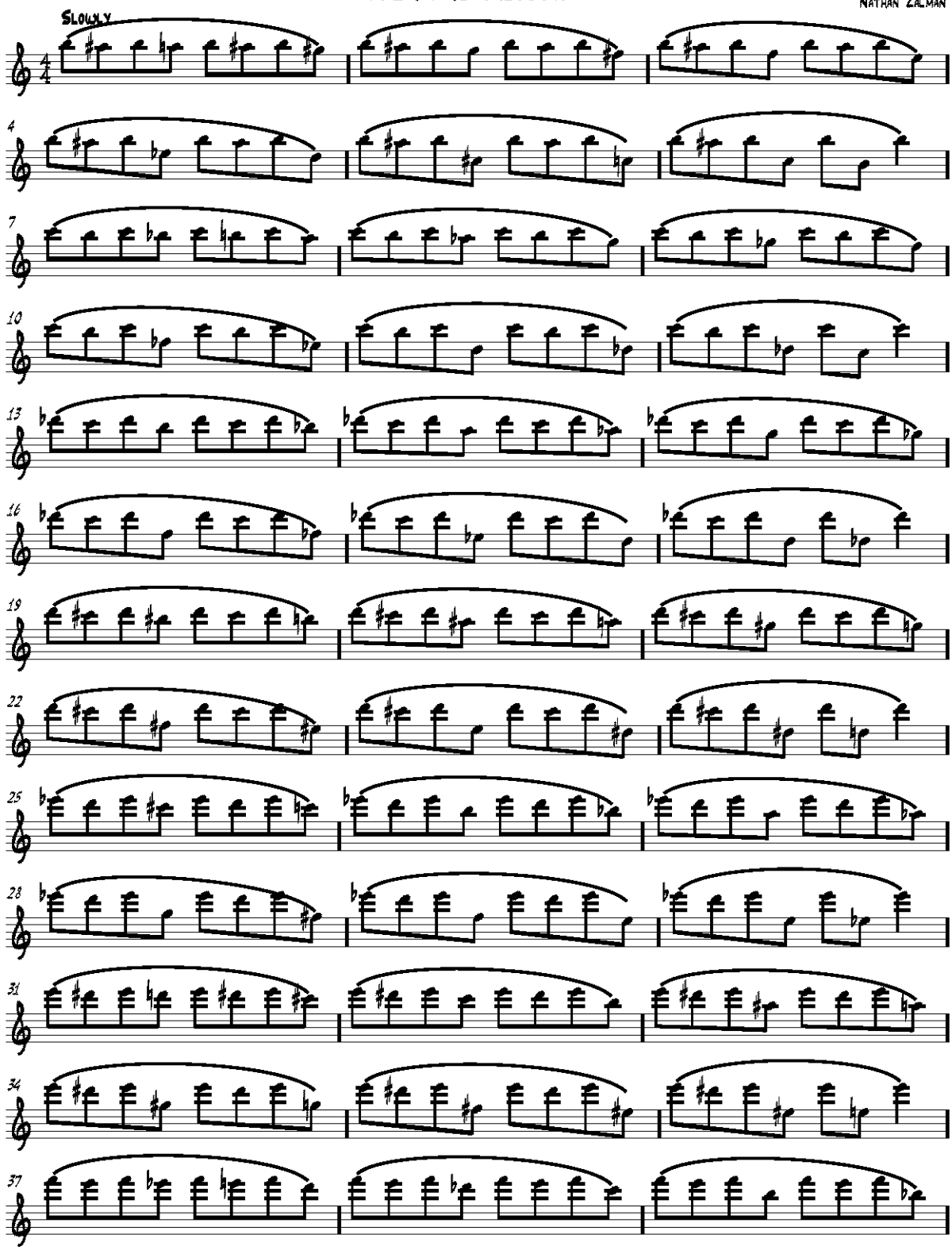
Nathan Zalman

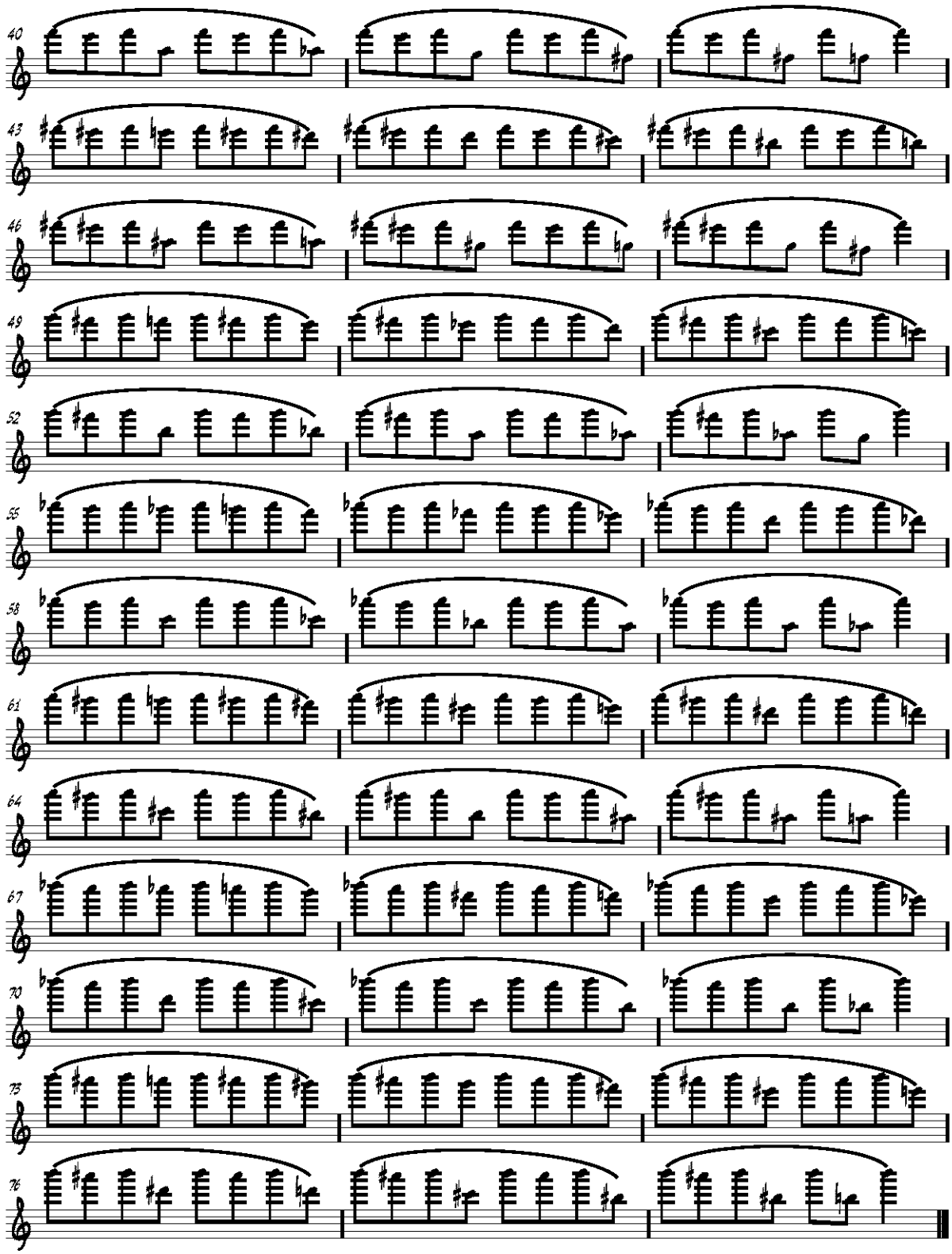


etc.

Open and Mellow

Nathan Zalman




40
43
46
49
52
55
58
61
64
67
70
73
76

Repeat Until Collapse

Embouchure Stamina Exercize

Repeat each section of this exercize until lip muscle fatique sets in, rest briefly, then continue. Treat this like three weight lifting exercizse. When the lips become tired and/or the tone looses anything, STOP & REST, and then resume. The exercise (and the practice session) is over when you can no longer play, if you want to take it that far.

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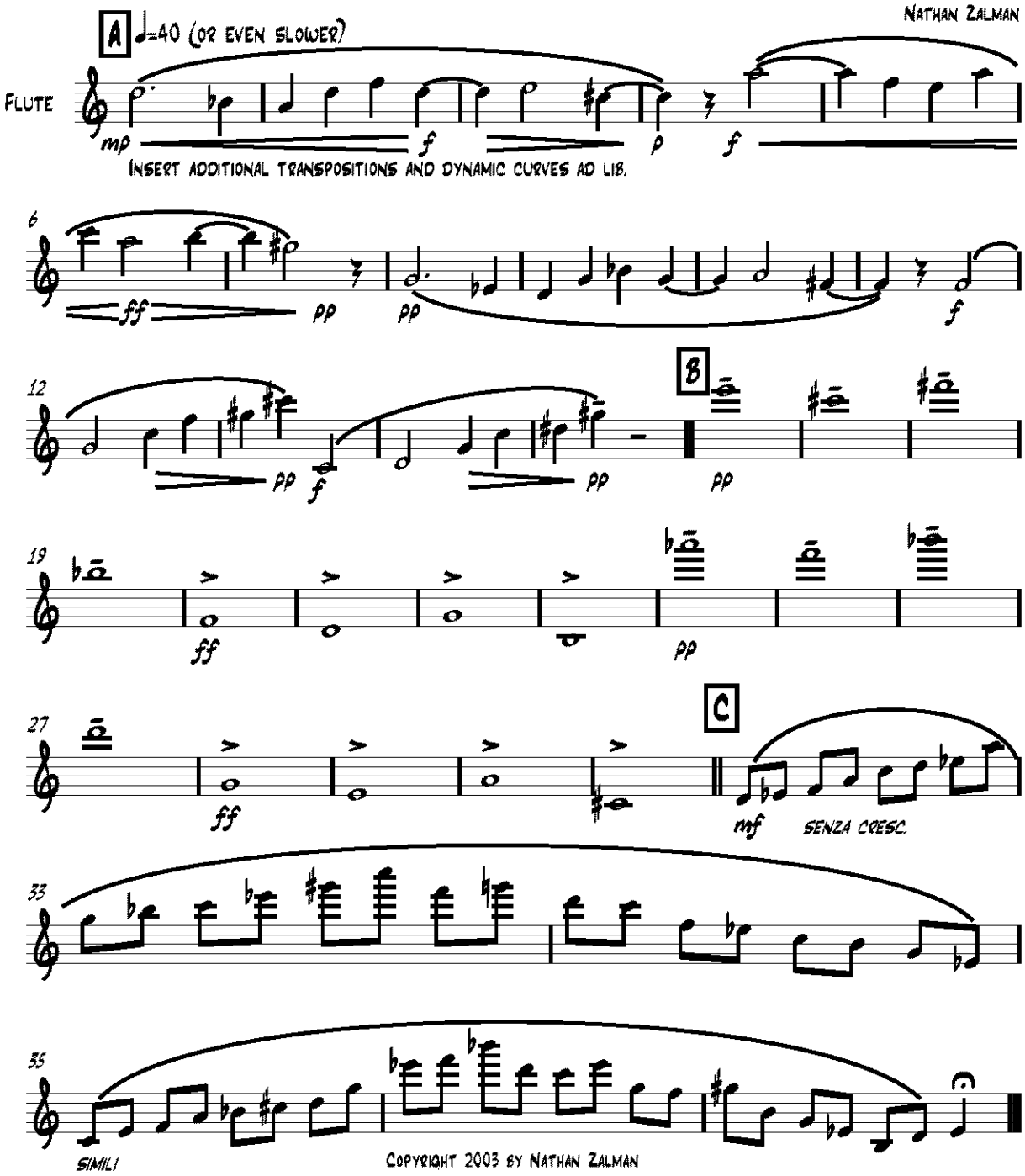
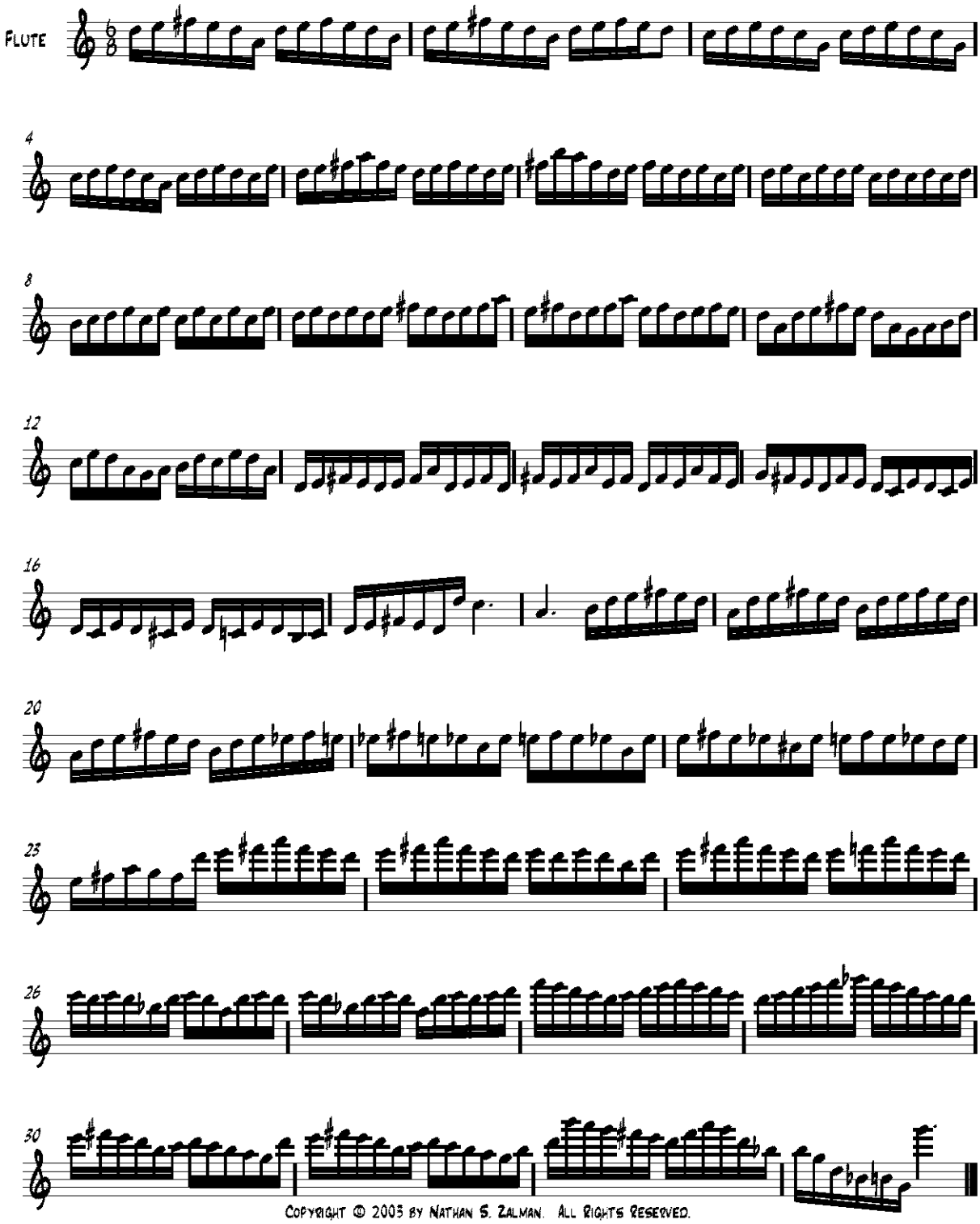


A Strong and Quick Right Hand

An exercise for Left-Handed Flutists

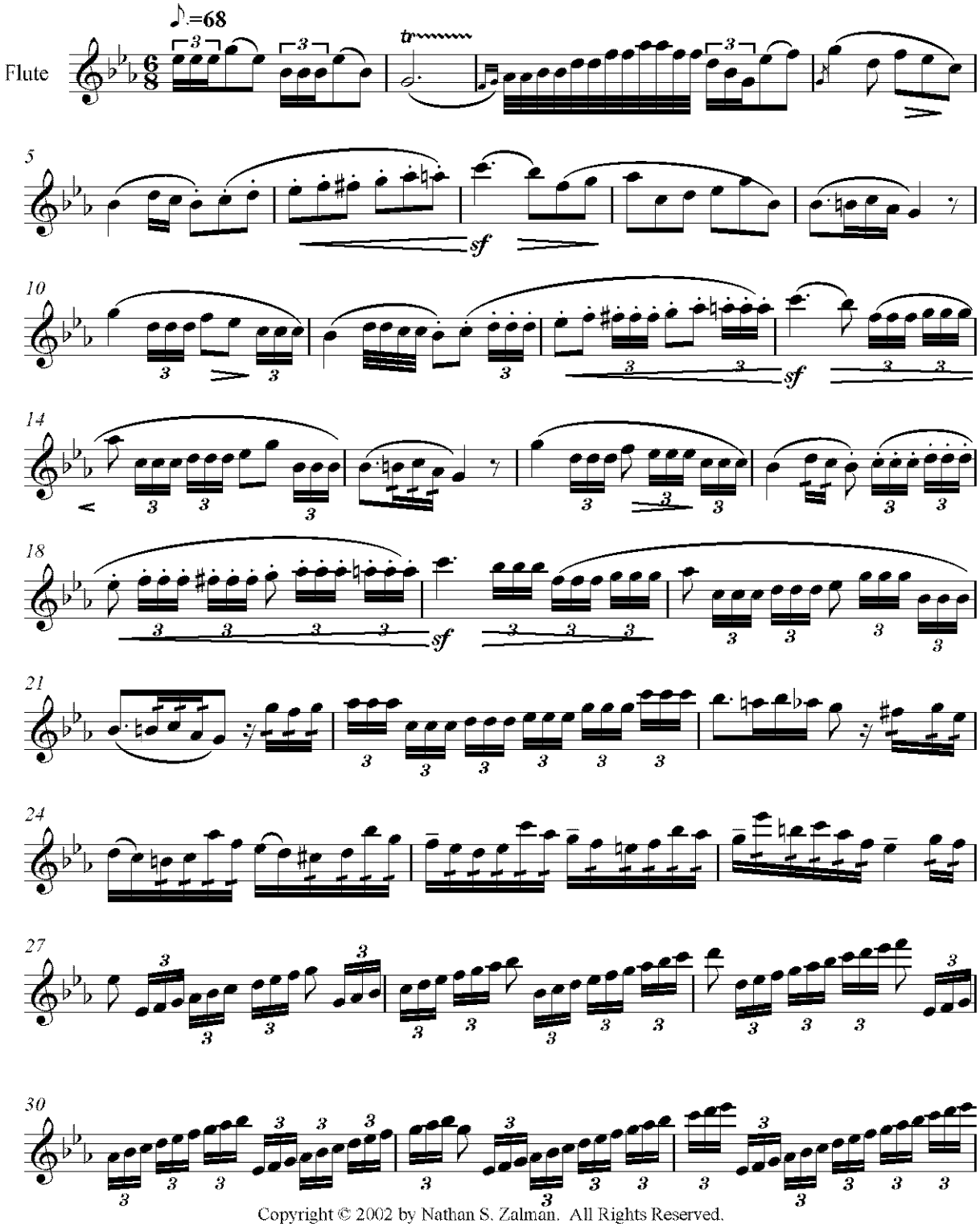
Nathan S. Zalman

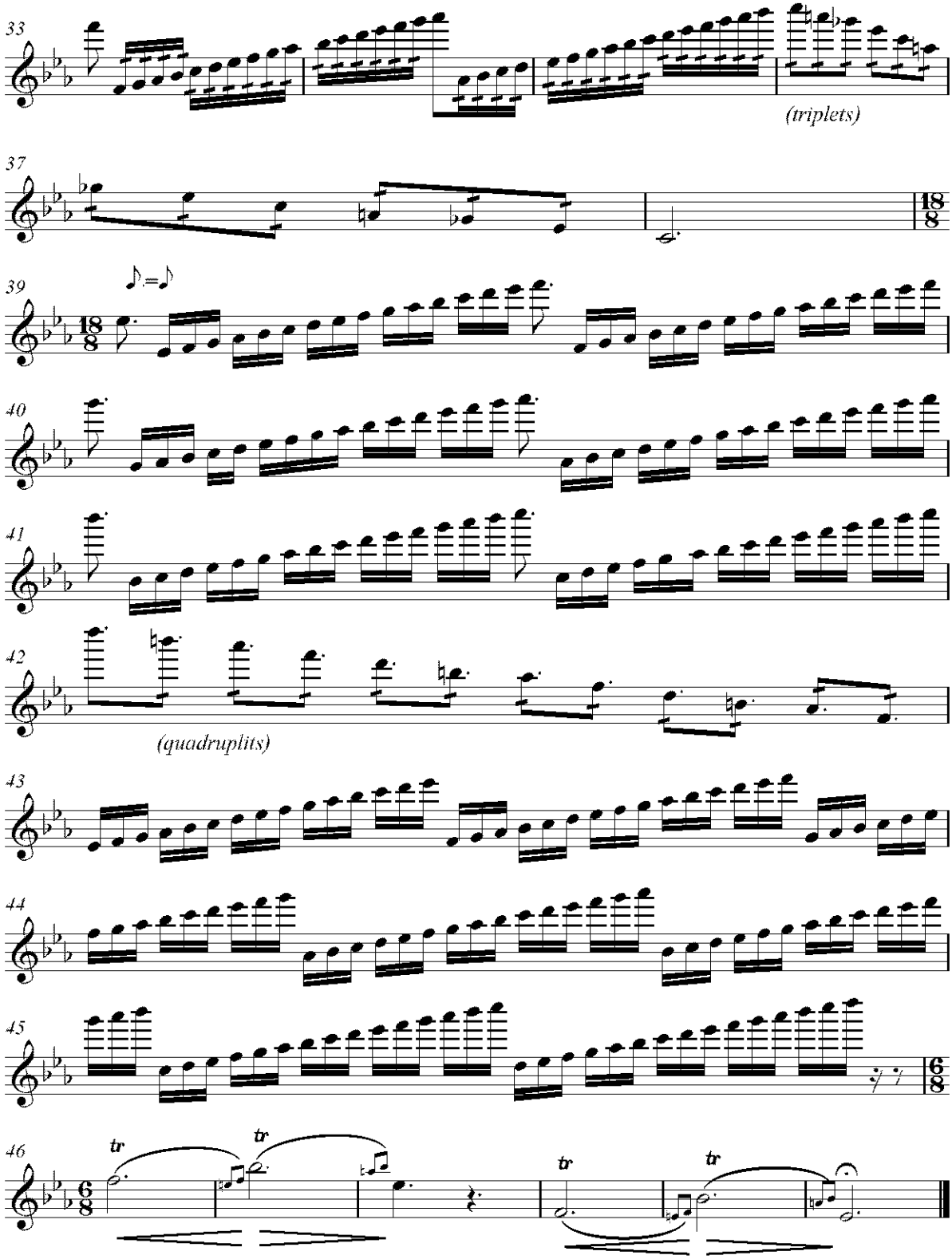
All Slurred



Study after Kuhlau Op. 68 #4

Nathan Zalman

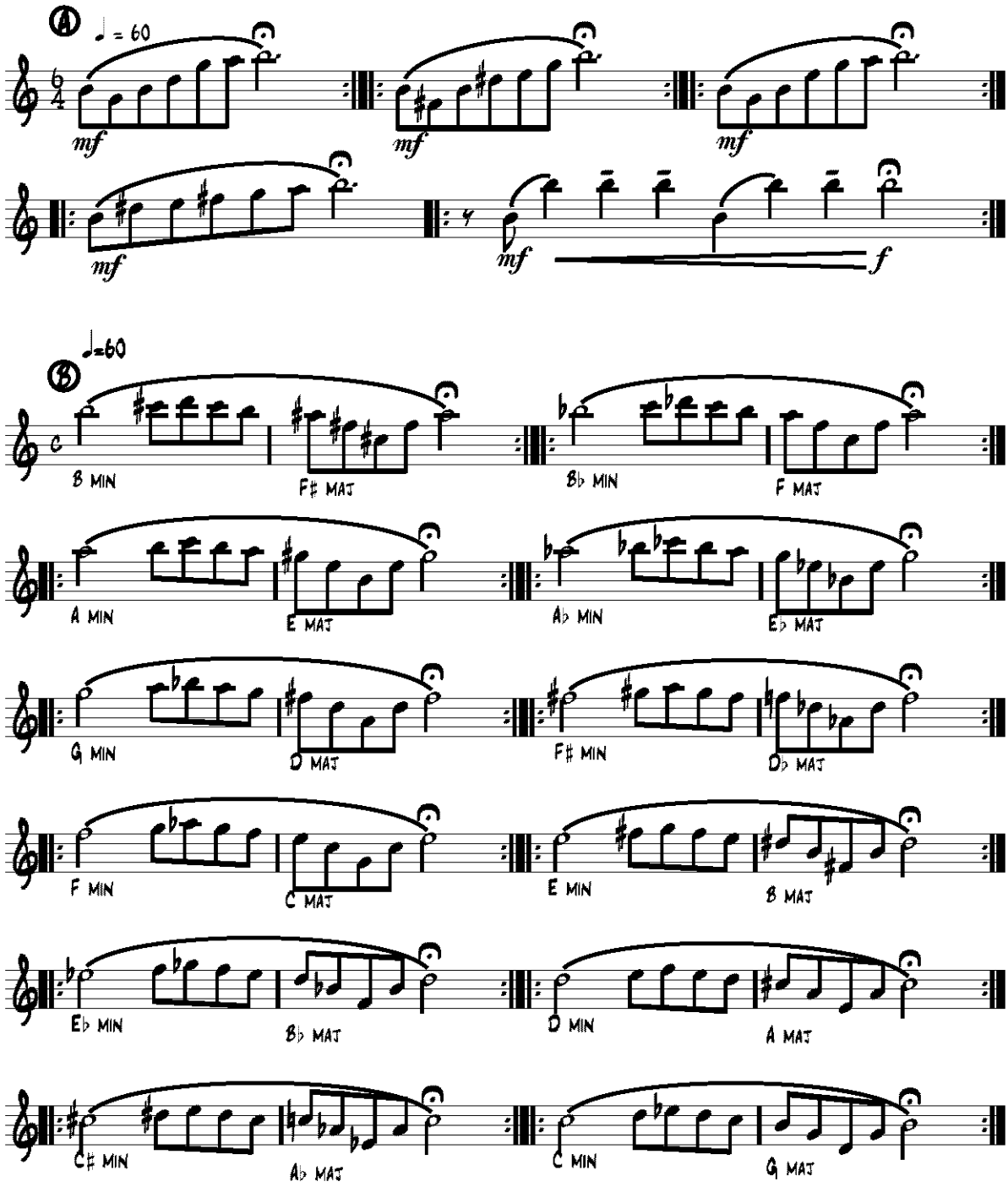


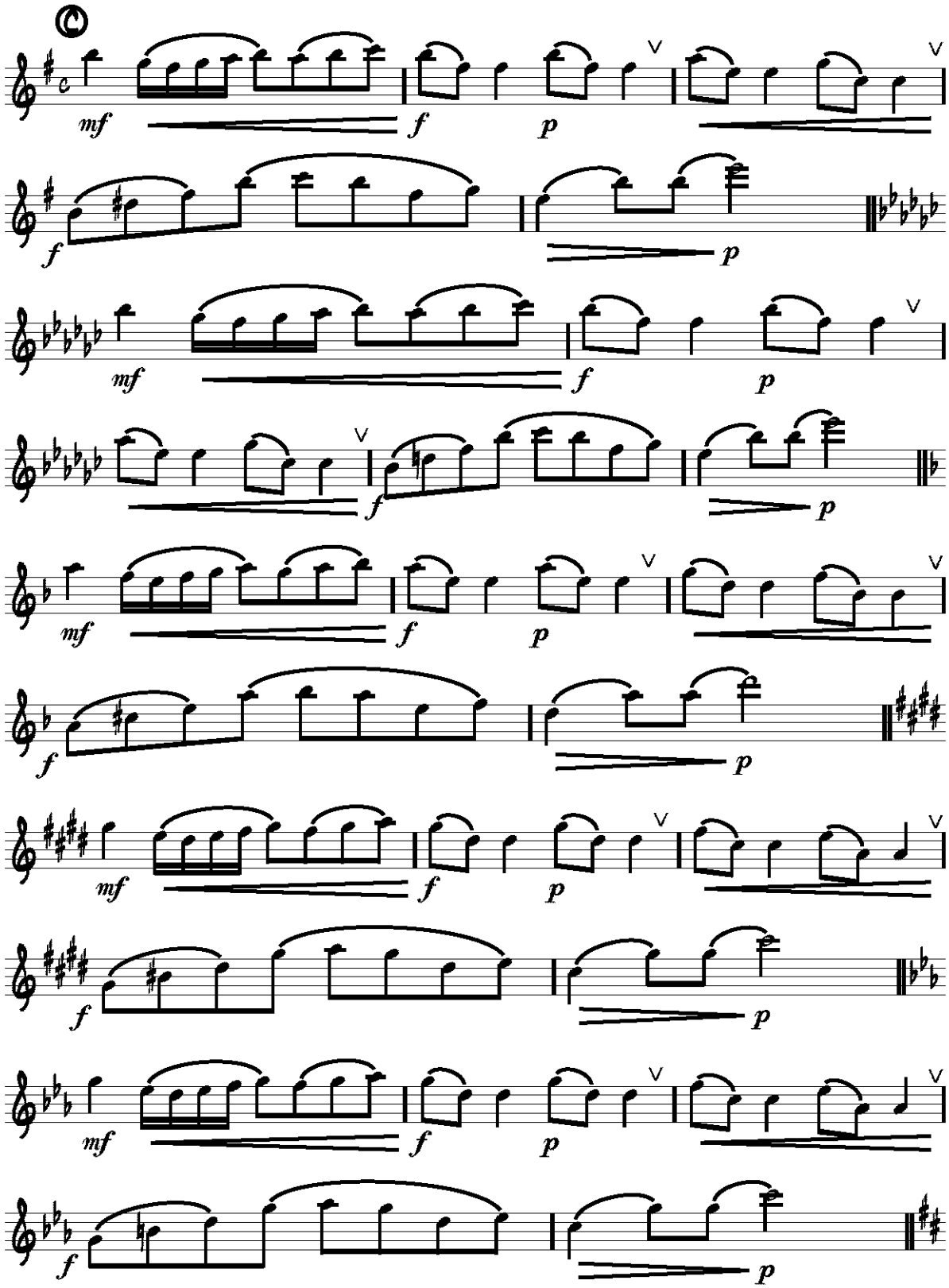

33
(triplets)
37
18/8
39
♪.=♪
40
41
42
(quadruplits)
43
44
45
6/8
46
6/8
tr
tr
tr
tr

Tone Exercises

Sir James Galway
ed. by Nathan Zalman

Just an idea for getting a good start to the day. We are looking for a good B♮!




mf
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p
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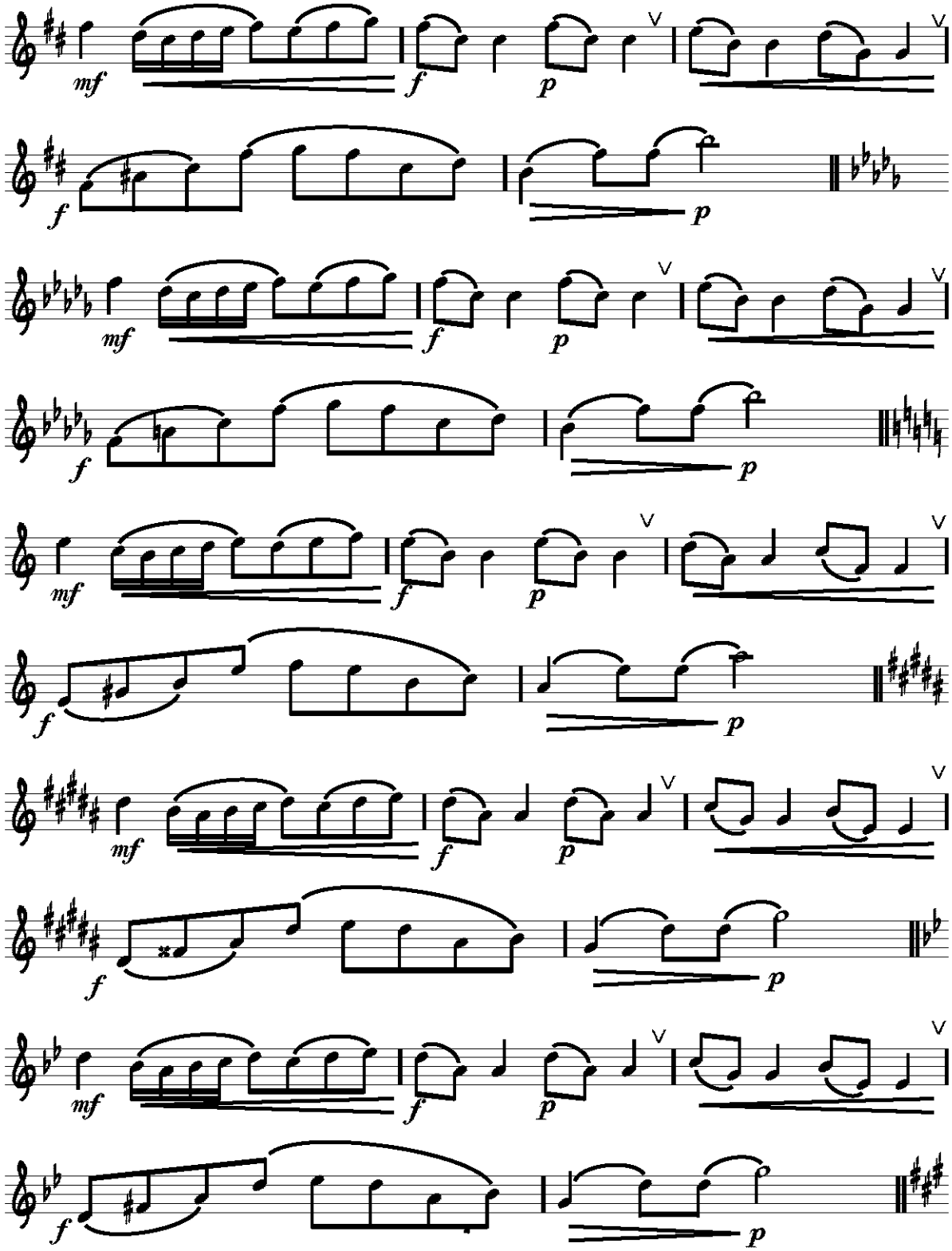
p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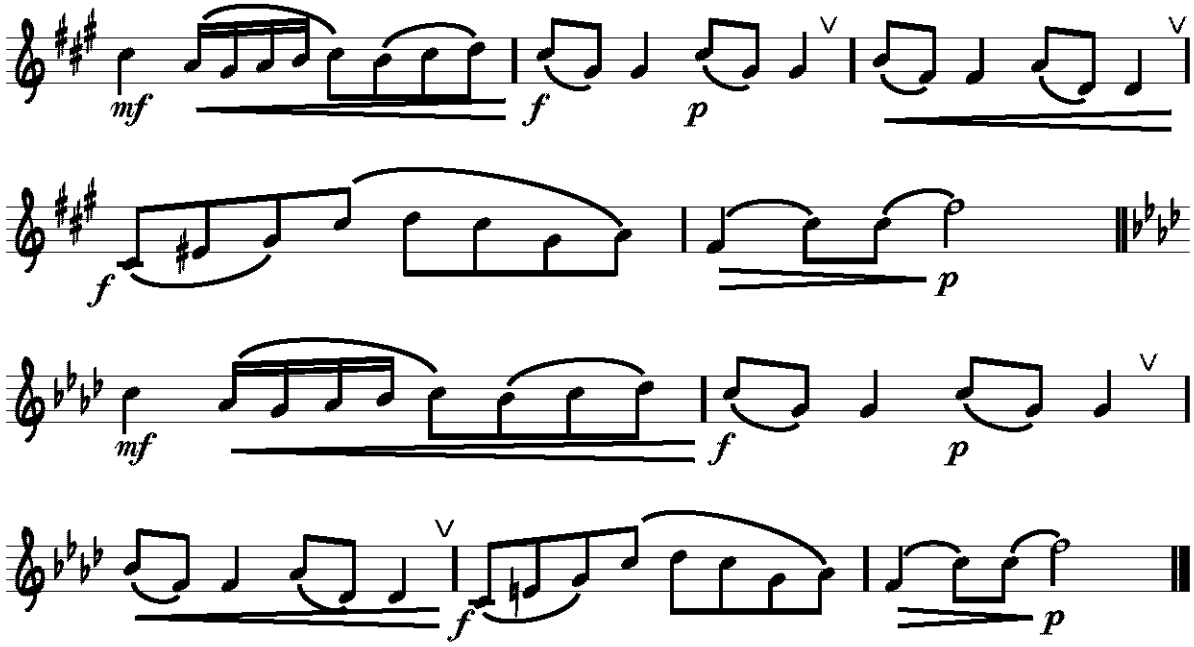
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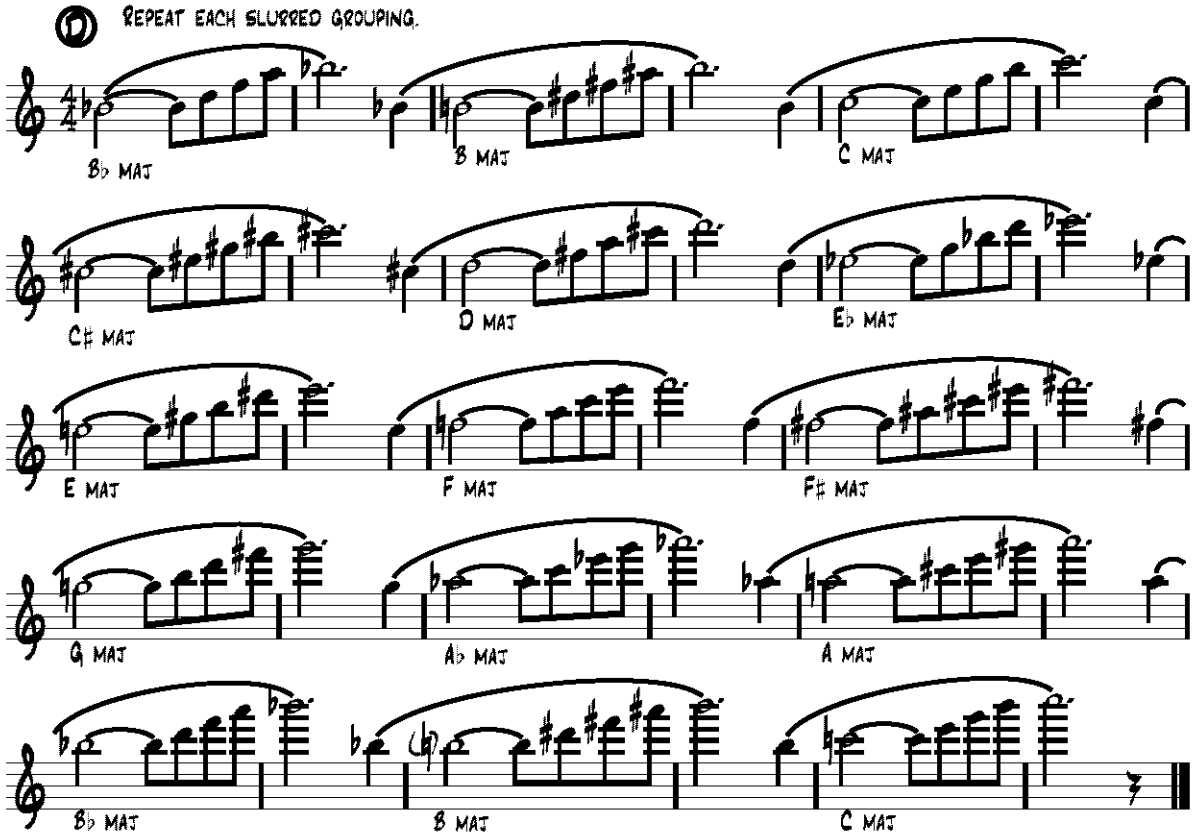
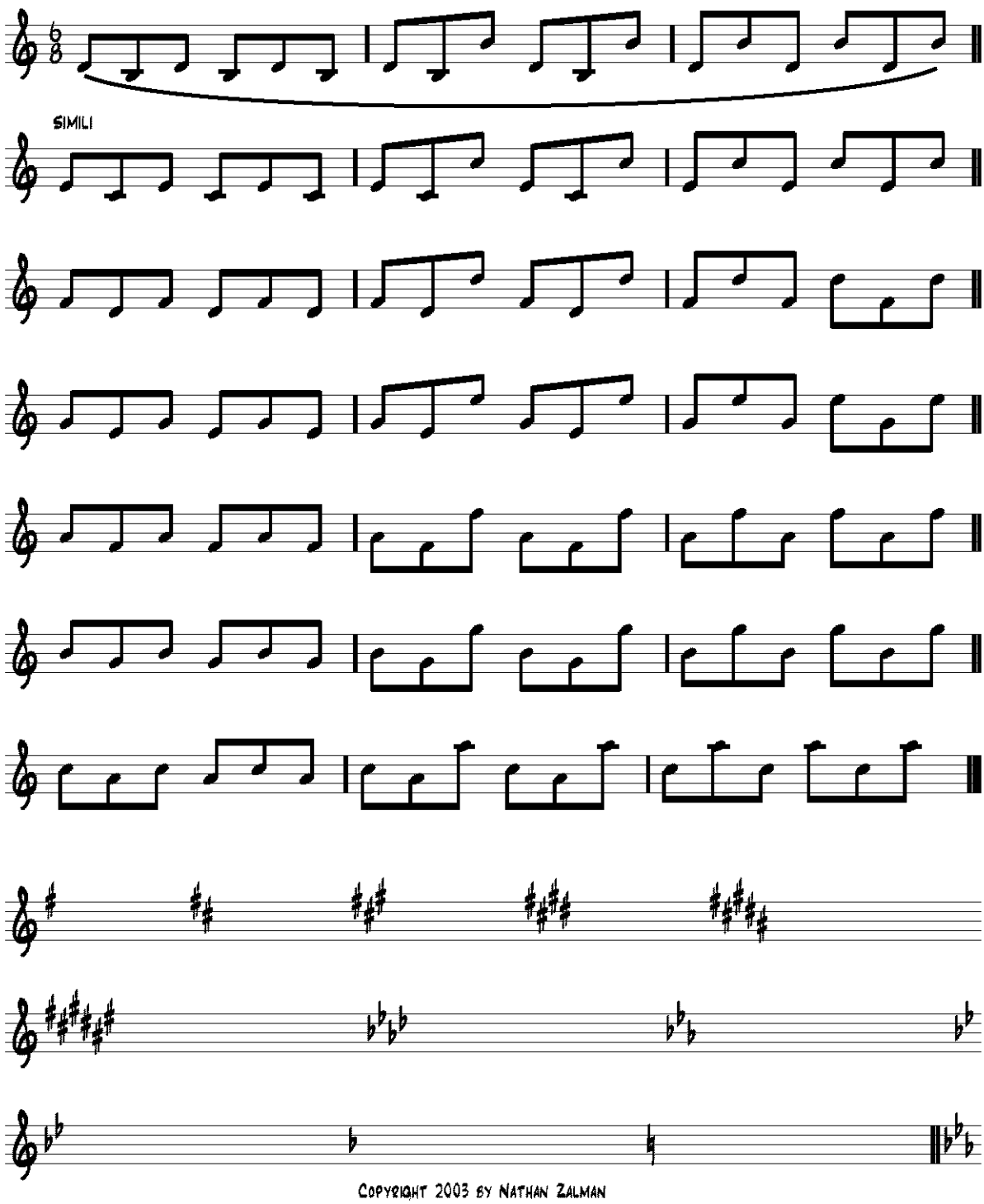

D
REPEAT EACH SLURRED GROUPING.
B♭ MAJ
B MAJ
C MAJ
C♯ MAJ
D MAJ
E♭ MAJ
E MAJ
F MAJ
F♯ MAJ
G MAJ
A♭ MAJ
A MAJ
B♭ MAJ
B MAJ
C MAJ

The Steps Exercise

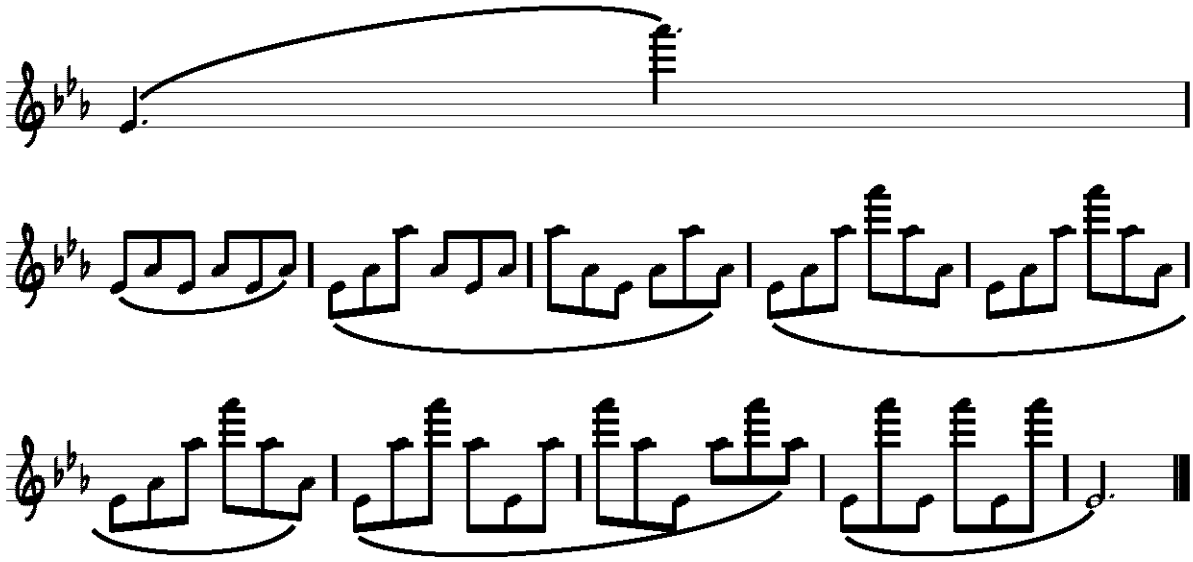
Nathan Zalman

Also 8va abd 16va. where possible.



The above is the simplest form of an exercize that can be applied to any interval, but is relevant particularly to notes from different harmonic series. The interval is first reduced to within an octave, then the target note is reached from it by slurring up or down an octave. Very large intervals can be approached by slurring first one octave, then two, until the target note is reached. The octave "props" are then removed one by one.

The following is an example of this pattern applied to a large interval.



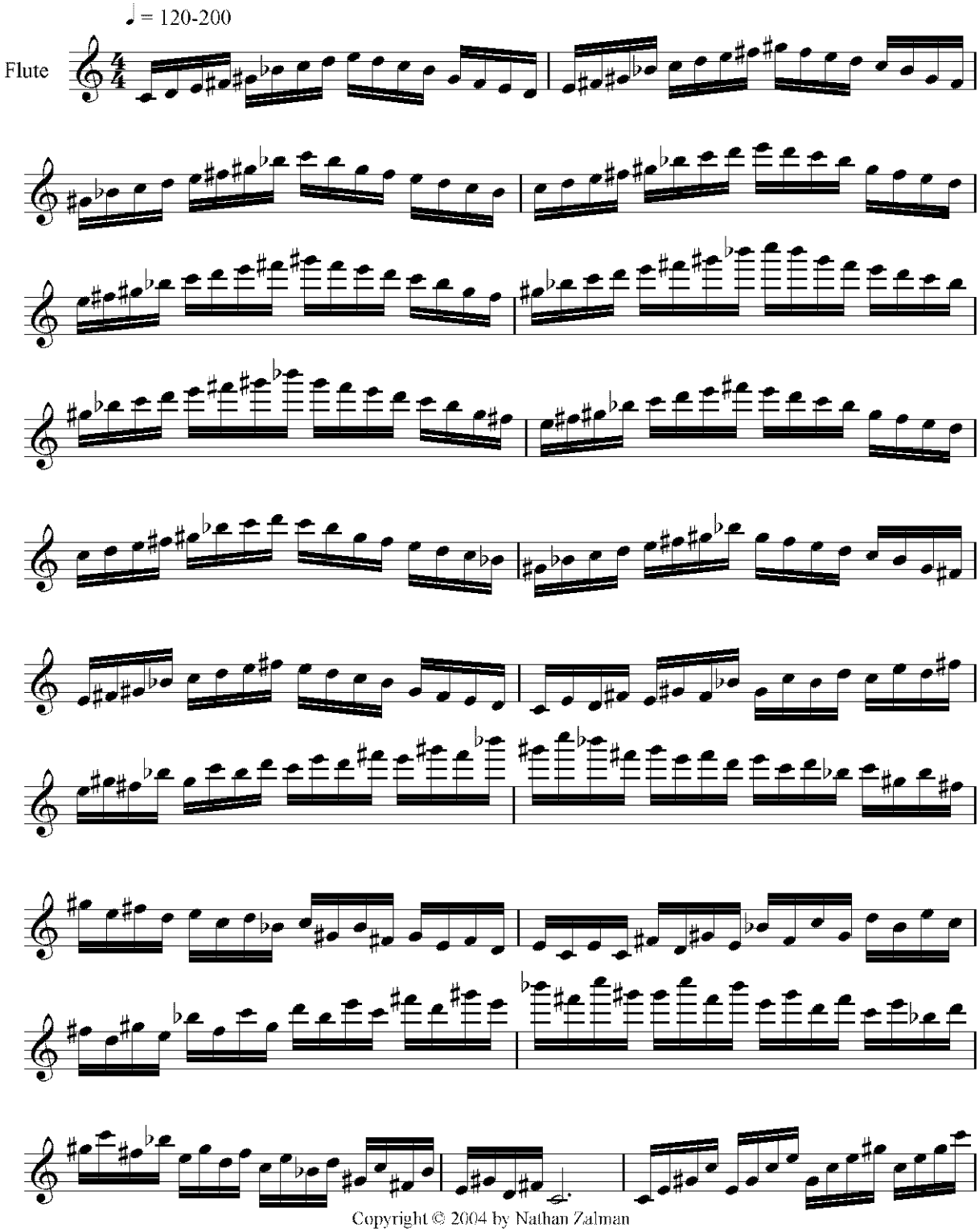
Whole Tone Scale and Arpeggio Exercize

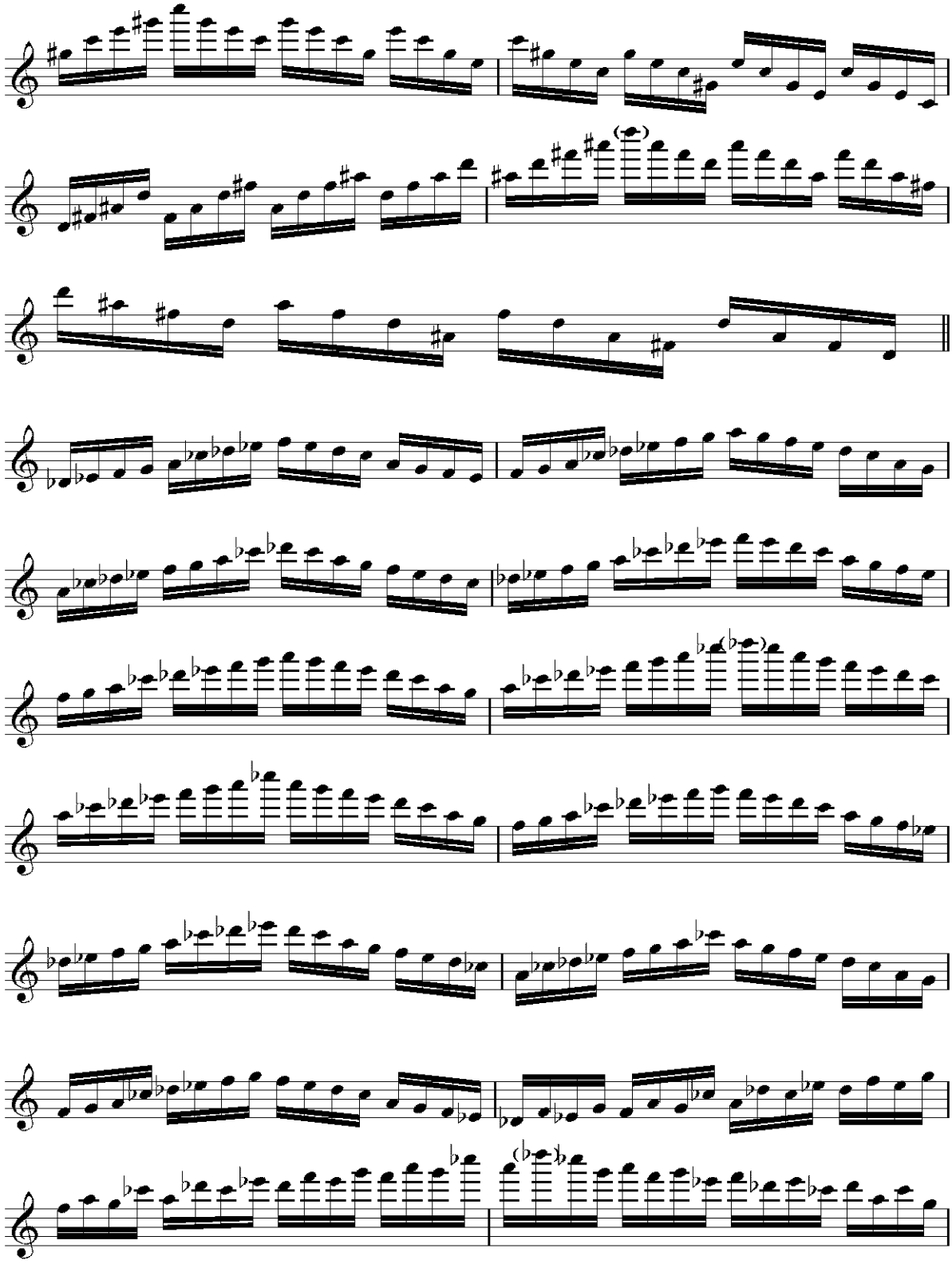
Nathan Zalman

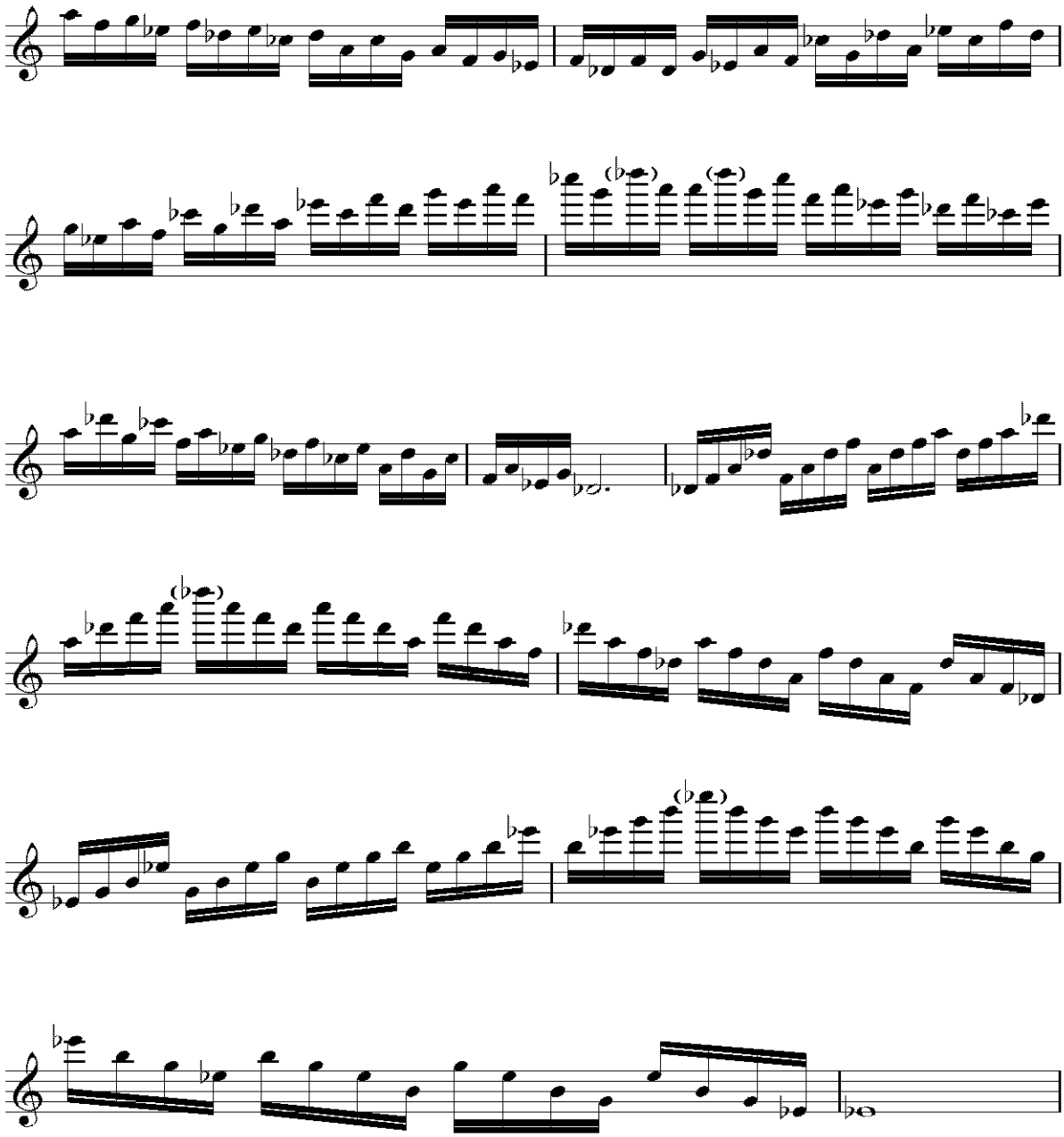
Repeat with each of the articulations shown at the end of the exercize. Practice in the 4th octave is optional (optional notes are indicated with parentheses).

Whole Tone Scale & Arpeggio Exercize

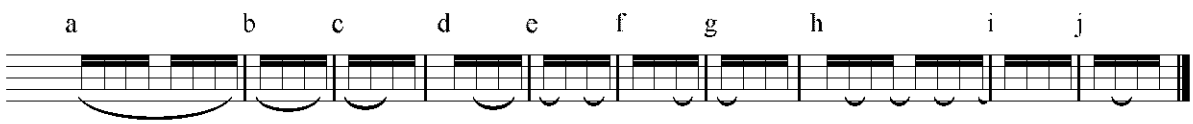
Nathan Zalman







Articulation patterns:



Old Smoothie

Build smooth large intervals from smooth small ones, gradually removing these "supports". The resulting large interval should have the same sense of direction and motion that the original chromatic scale does. Practice similarly for larger and smaller intervals.

Nathan Zalman