Gyration Point 3.0

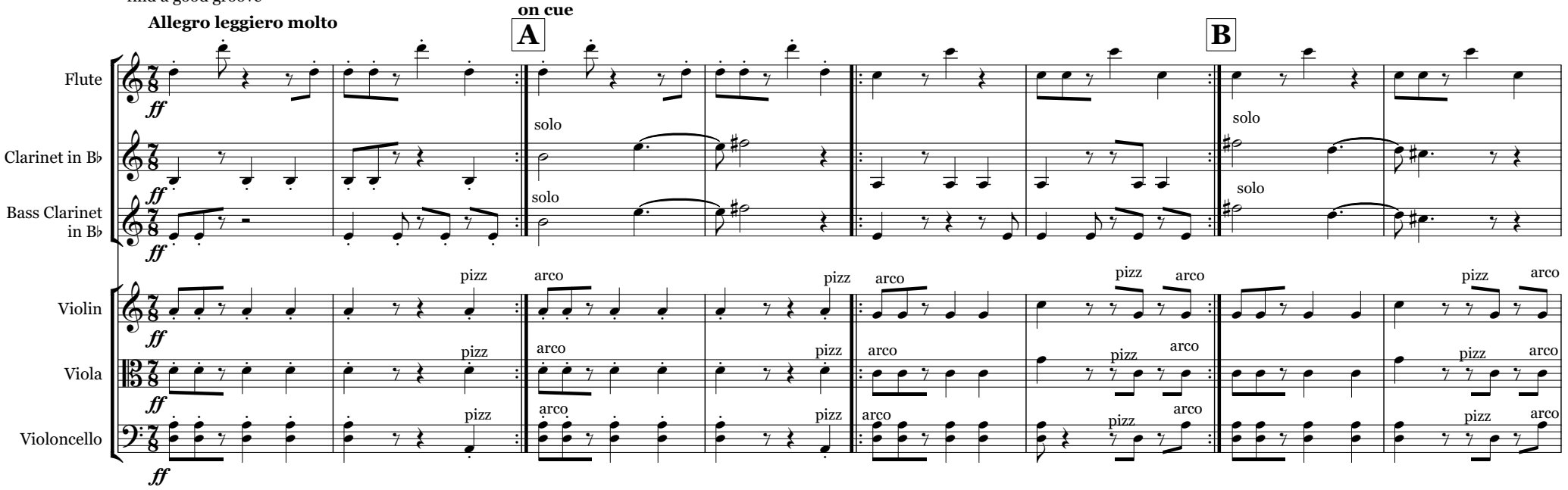
"Even quite ungainly objects, like chairs and tables, will become almost spherical if you wrap them in enough newspaper."

Martin Q Larsson

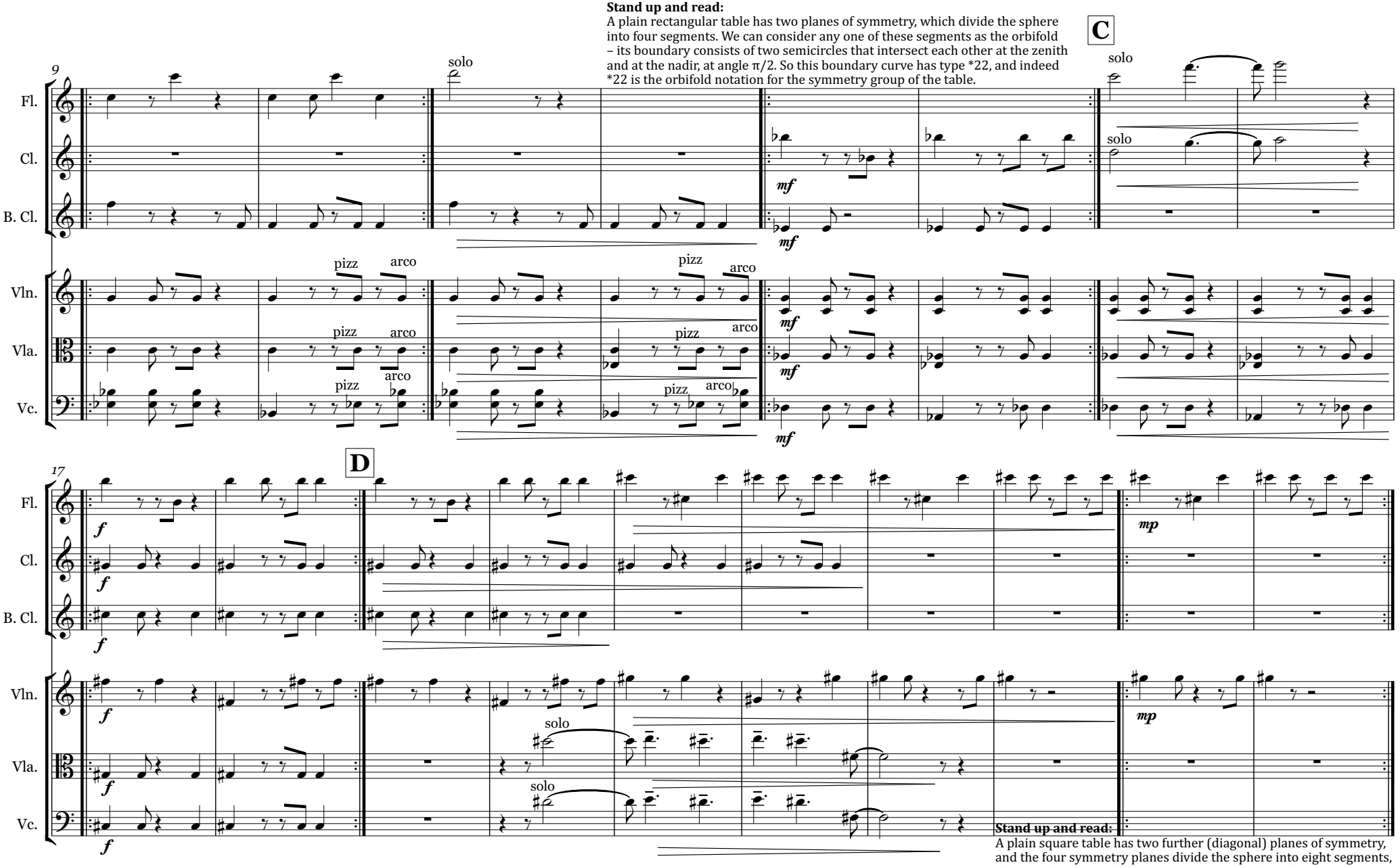
I. Tables and chairs

play each repetition
4-40 times, until you
find a good groove

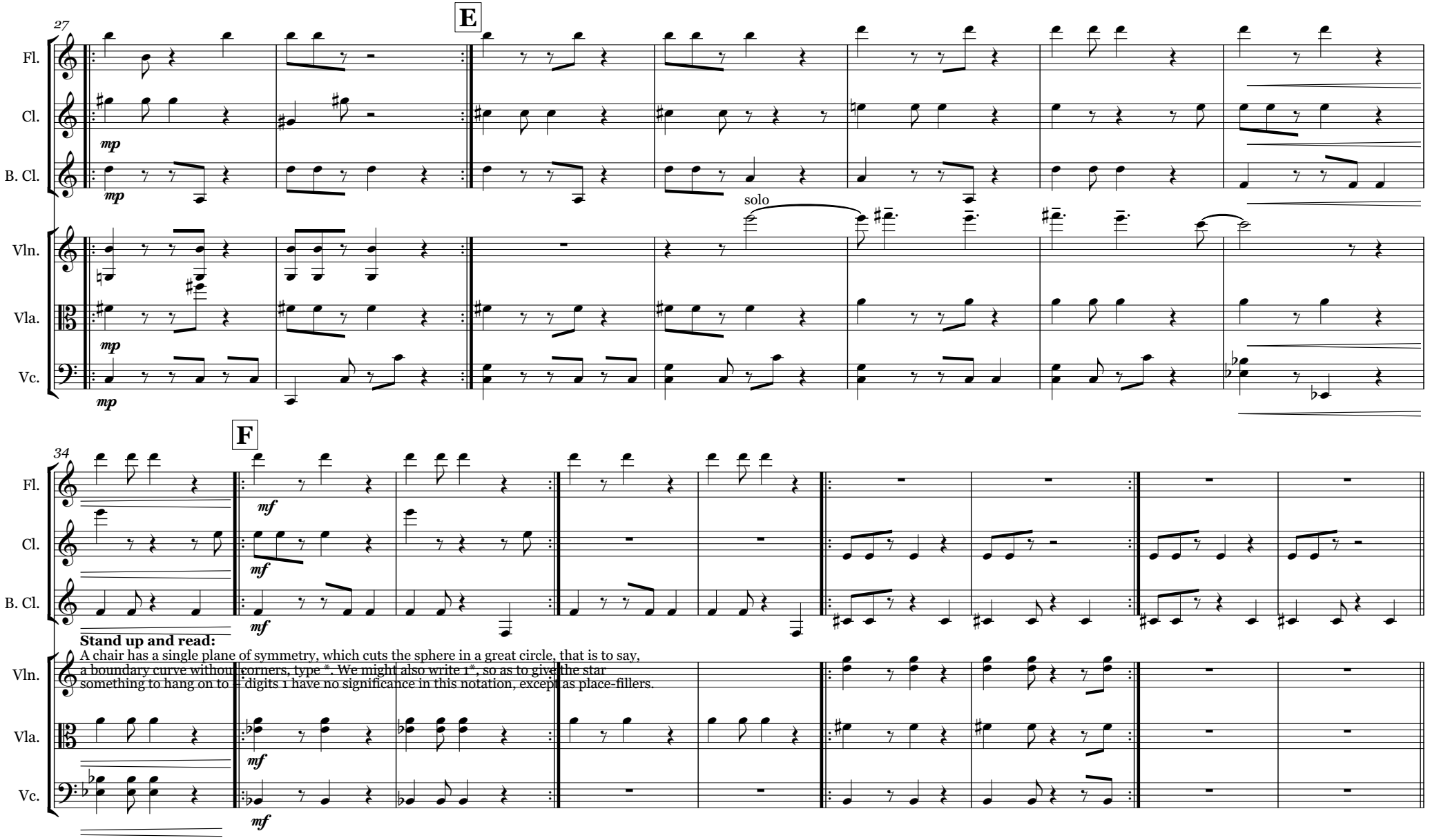
Allegro leggiero molto



Stand up and read:
A plain rectangular table has two planes of symmetry, which divide the sphere into four segments. We can consider any one of these segments as the orbifold – its boundary consists of two semicircles that intersect each other at the zenith and at the nadir, at angle π/2. So this boundary curve has type *22, and indeed *22 is the orbifold notation for the symmetry group of the table.

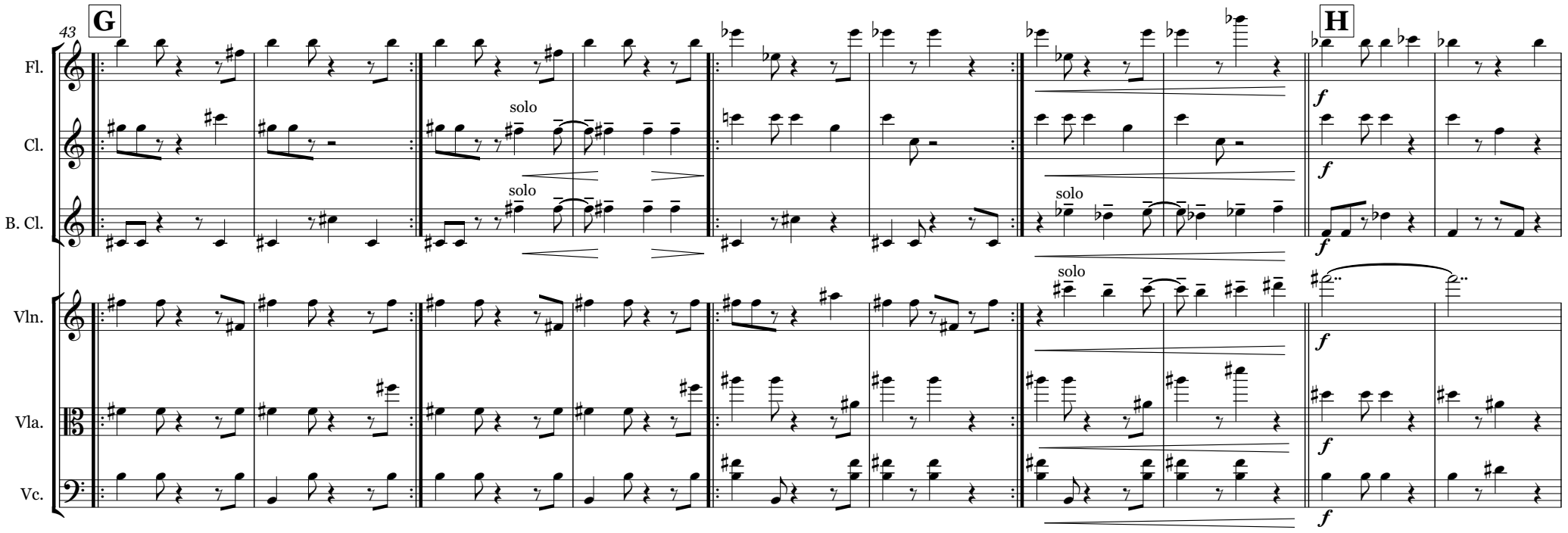


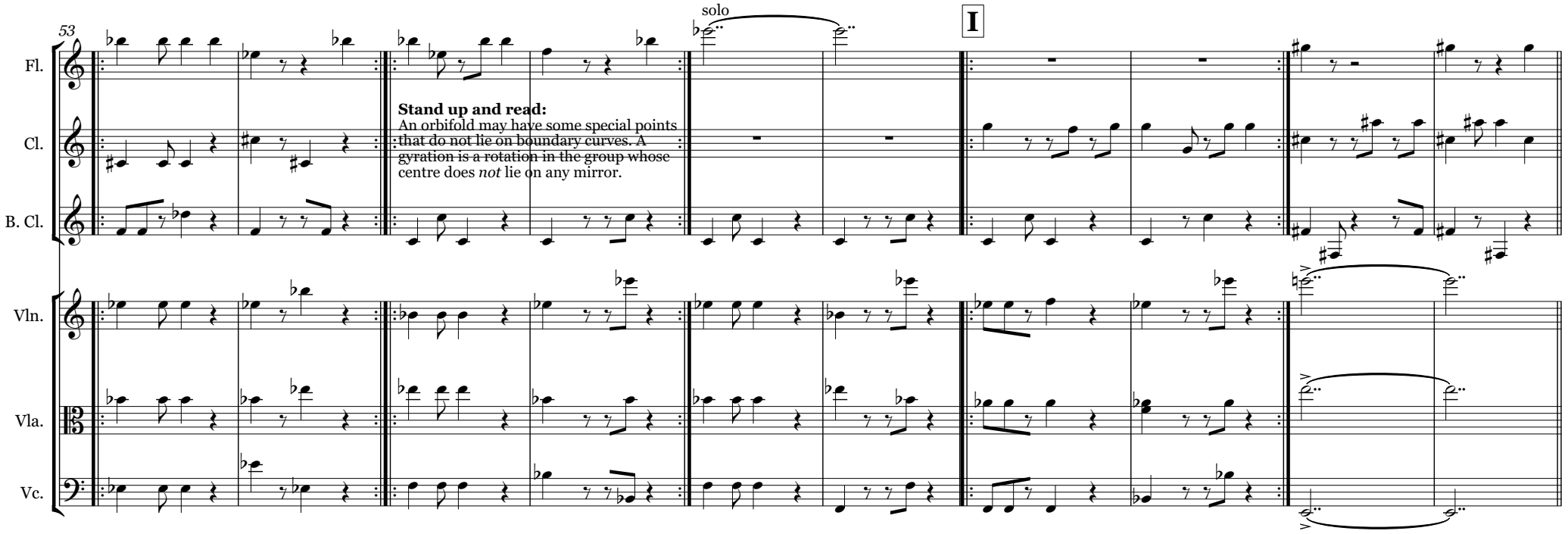
Stand up and read:
A plain square table has two further (diagonal) planes of symmetry, and the four symmetry planes divide the sphere into eight segments, the typical segment having two corners at angle π/4.
This time the symmetry group is *44.

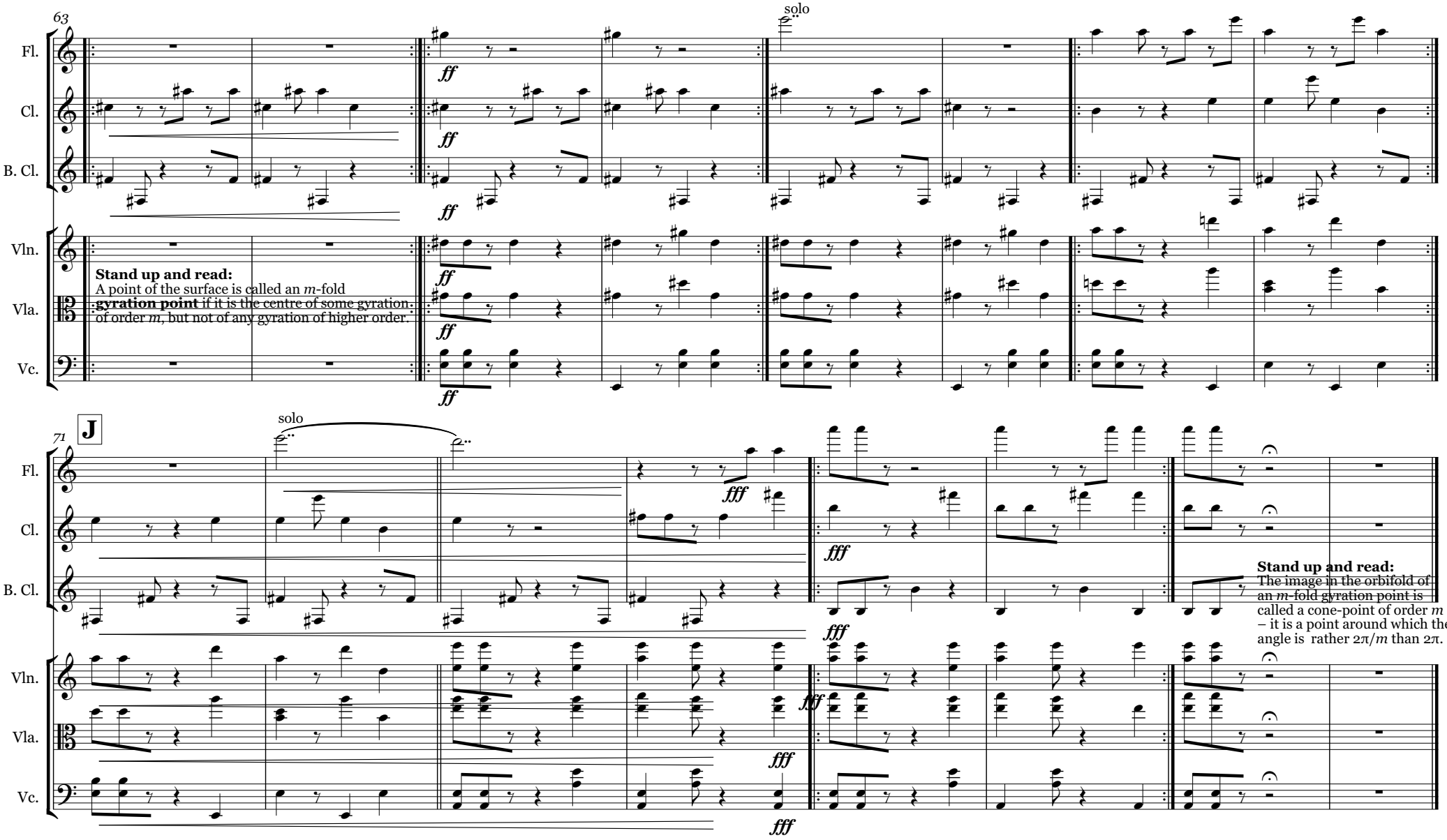

27
E
Fl.
Cl.
B. Cl.
Vln.
Vla.
Vc.
mp
solo
34
F
mf
Stand up and read:
A chair has a single plane of symmetry, which cuts the sphere in a great circle, that is to say,
a boundary curve without corners, type *. We might also write 1*, so as to give the star
something to hang on to - digits 1 have no significance in this notation, except as place-fillers.

attacca

II. Gyration points and cone points




53
solo
I
Fl.
Cl.
B. Cl.
Vln.
Vla.
Vc.
Stand up and read:
An orbifold may have some special points that do not lie on boundary curves. A gyration is a rotation in the group whose centre does *not* lie on any mirror.


63
Fl.
Cl.
B. Cl.
Vln.
Vla.
Vc.
ff
solo
Stand up and read:
A point of the surface is called an m-fold gyration point if it is the centre of some gyration of order m, but not of any gyration of higher order.
71
J
fff
Stand up and read:
The image in the orbifold of an m-fold gyration point is called a cone-point of order m – it is a point around which the angle is rather 2π/m than 2π.

Flute

Gyration Point 3.0

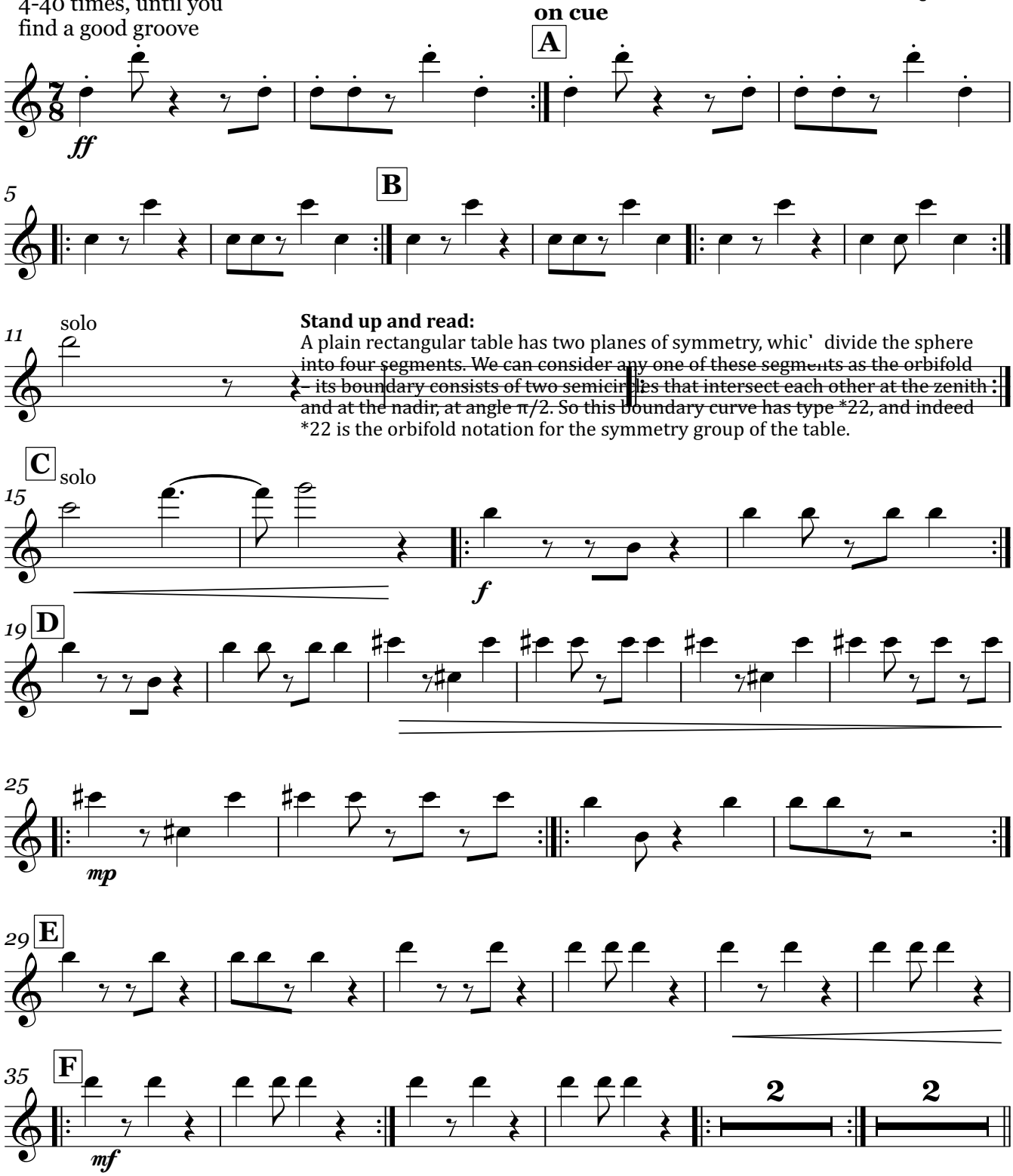
"Even quite ungainly objects, like chairs and tables, will become almost spherical if you wrap them in enough newspaper."

I. Tables and chairs

Allegro leggiero molto

play each repetition
4-40 times, until you
find a good groove

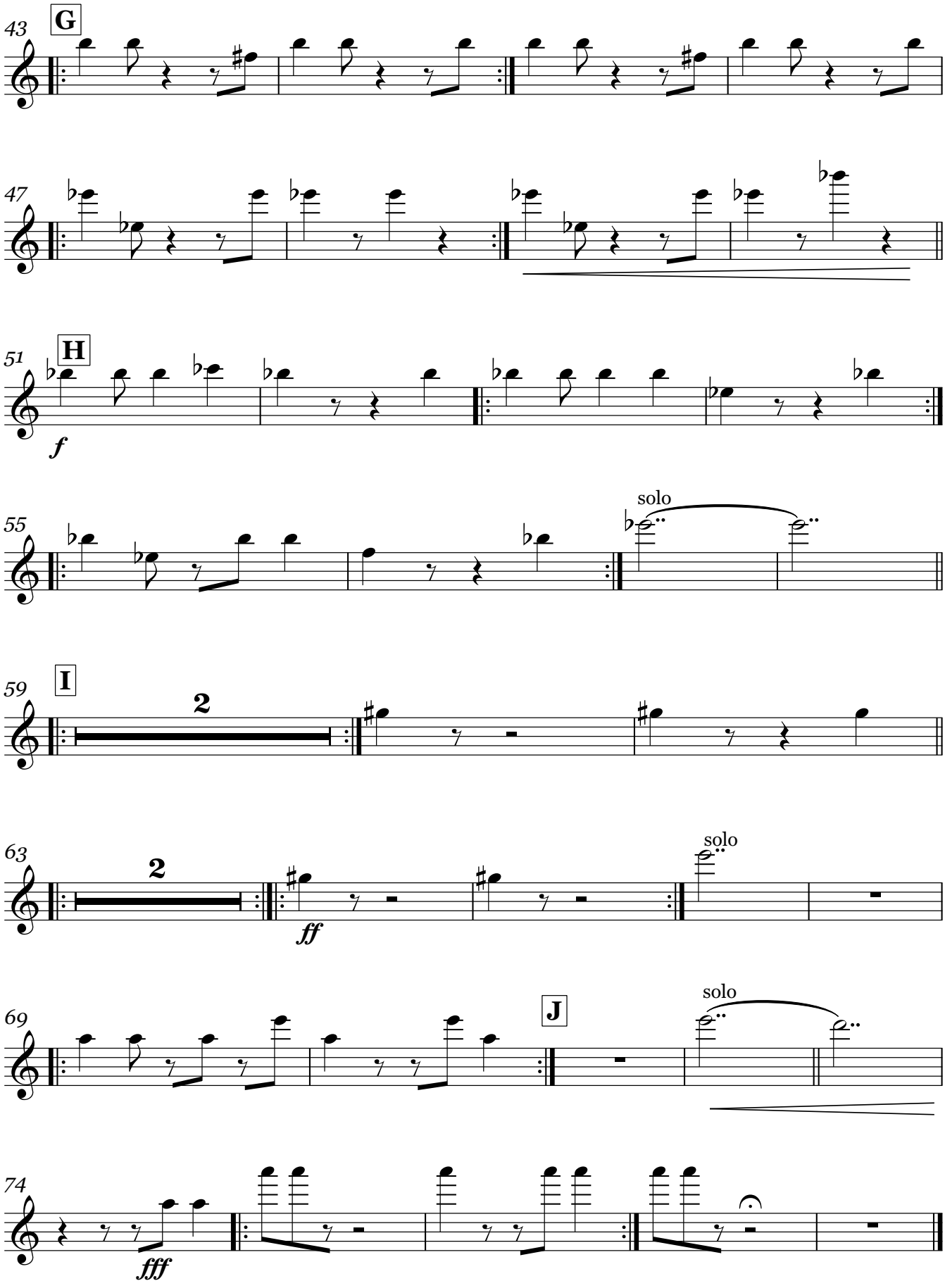
Martin Q Larsson



Stand up and read:
A plain rectangular table has two planes of symmetry, whic' divide the sphere into four segments. We can consider any one of these segments as the orbifold – its boundary consists of two semicircles that intersect each other at the zenith and at the nadir, at angle π/2. So this boundary curve has type *22, and indeed *22 is the orbifold notation for the symmetry group of the table.

II. Gyration points and cone points

attacca



Clarinet in B♭

Gyration Point 3.0

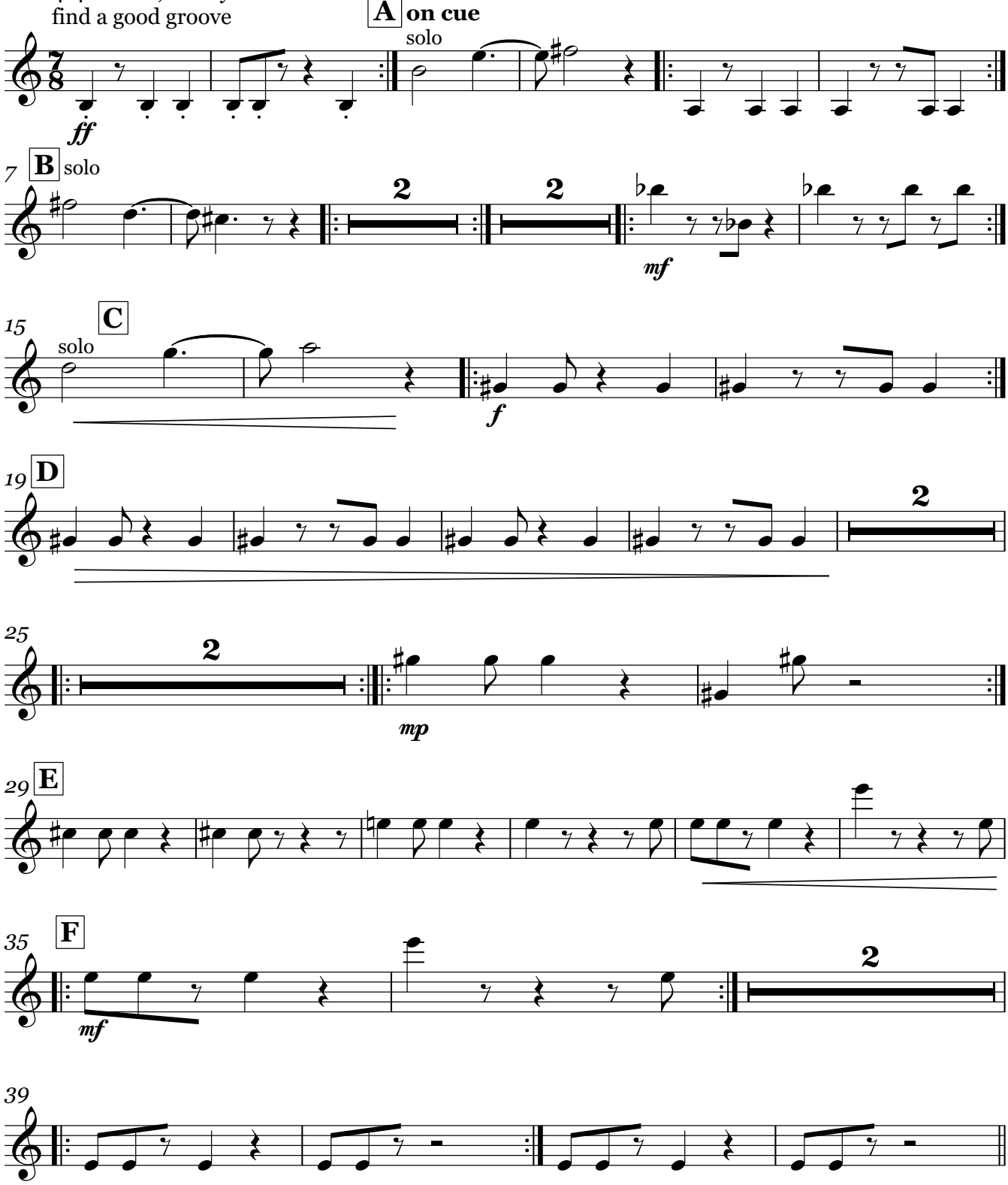
"Even quite ungainly objects, like chairs and tables, will become almost spherical if you wrap them in enough newspaper."

I. Tables and chairs

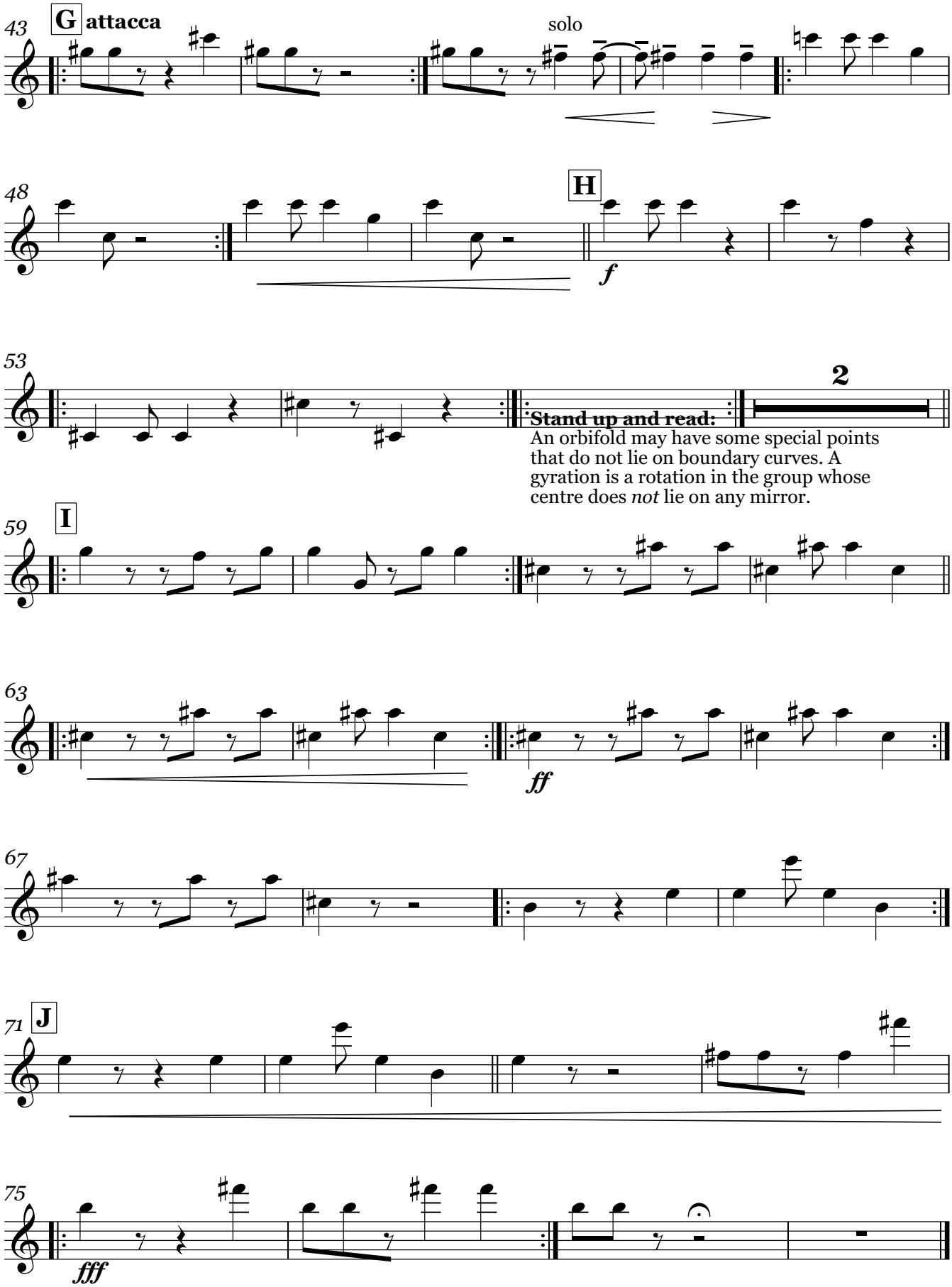
Allegro leggiero molto

Martin Q Larsson

play each repetition
4-40 times, until you
find a good groove



II. Gyration points and cone points



Gyration Point 3.0

Bass Clarinet in B♭

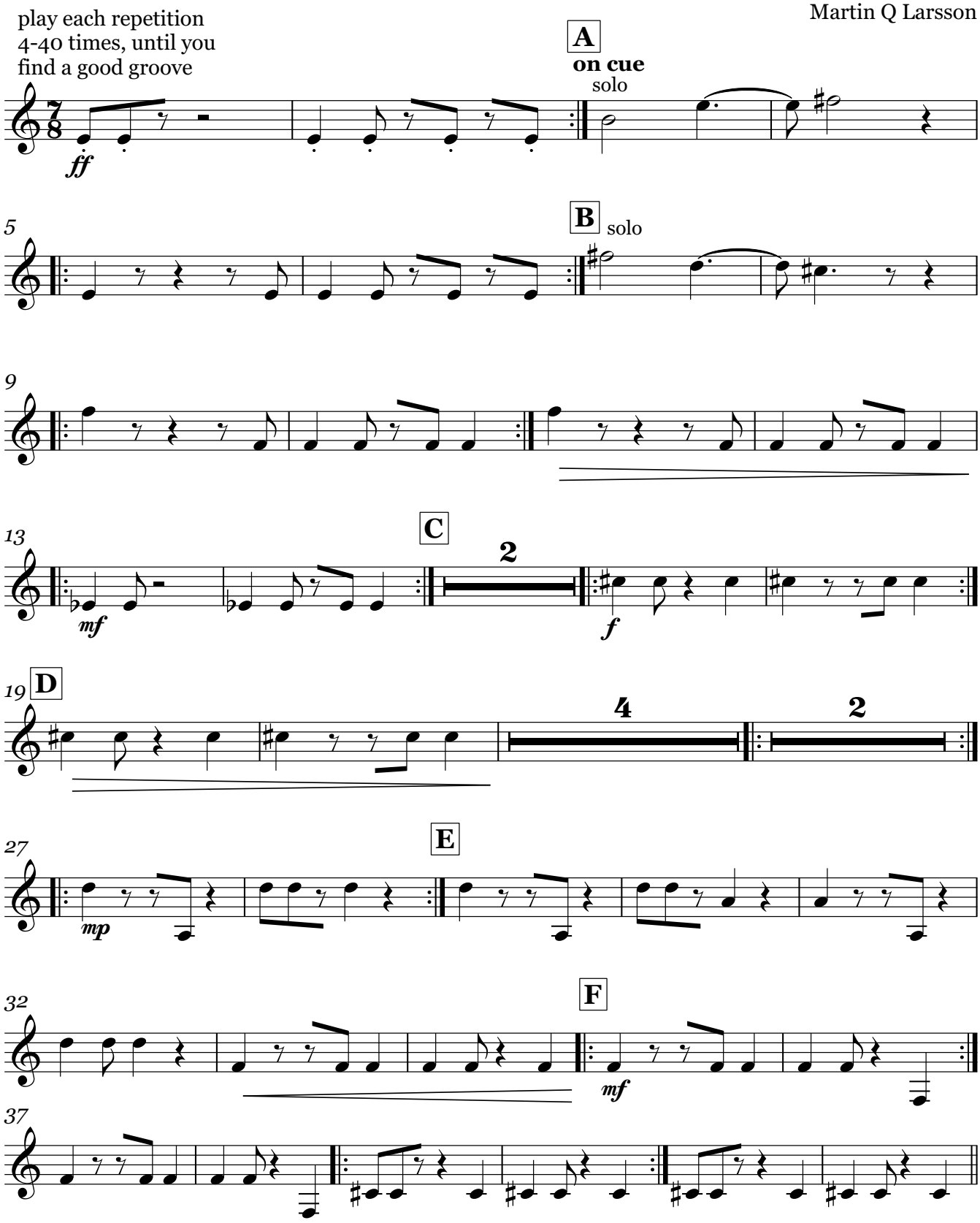
"Even quite ungainly objects, like chairs and tables, will become almost spherical if you wrap them in enough newspaper."

I. Tables and chairs

Allegro leggiero molto

Martin Q Larsson

play each repetition
4-40 times, until you
find a good groove



II. Gyration points and cone points

43 **G** **attacca**

solo

47

solo

51 **H**

f

55

59 **I**

63

ff

67

71 **J**

75

fff

Stand up and read:
The image in the orbifold of an m-fold gyration point is called a cone-point of order m – it is a point around which the angle is rather $2\pi/m$ than 2π.

Violin

Gyration Point 3.0

"Even quite ungainly objects, like chairs and tables, will become almost spherical if you wrap them in enough newspaper."

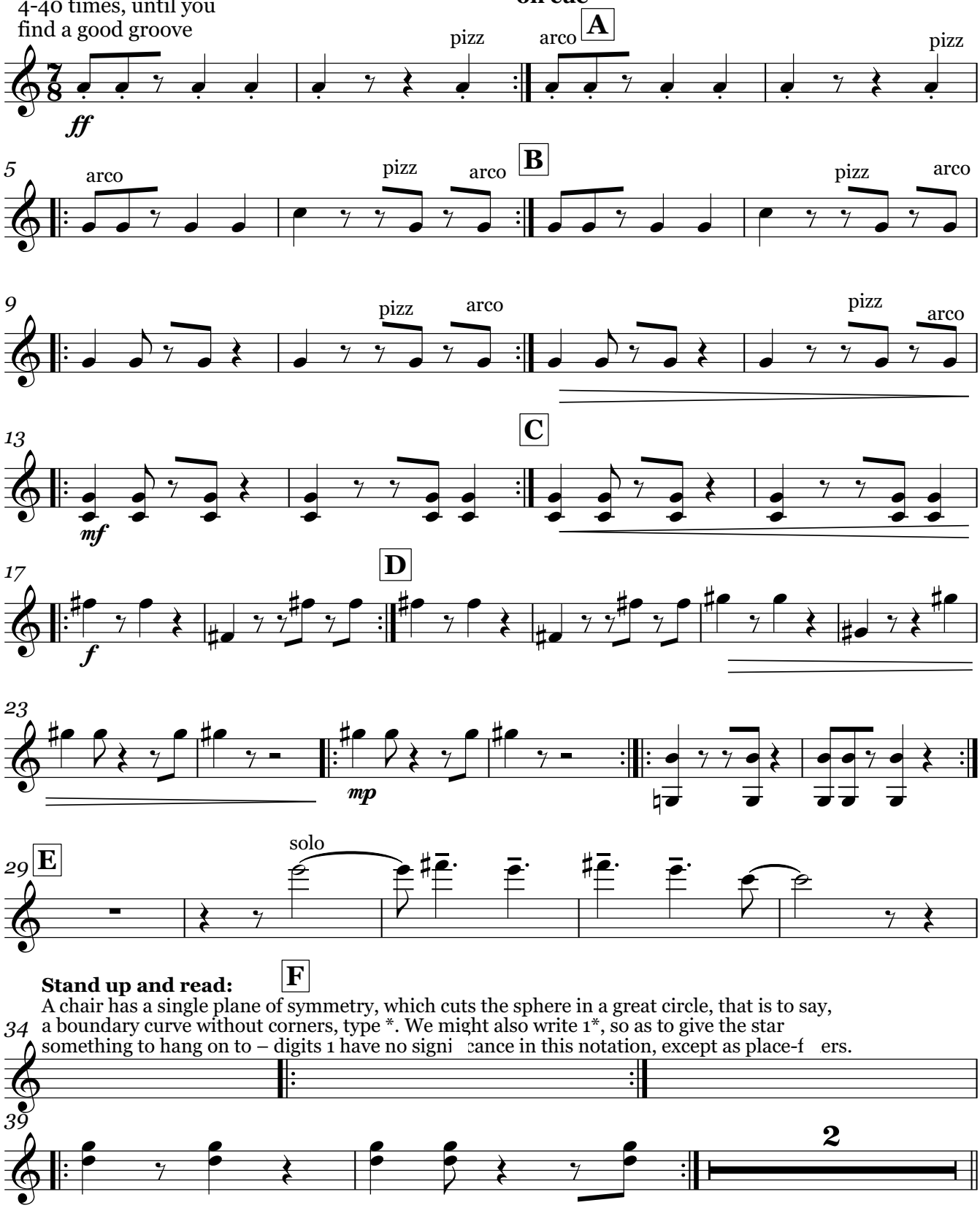
Allegro leggiero molto

I. Tables and chairs

Martin Q Larsson

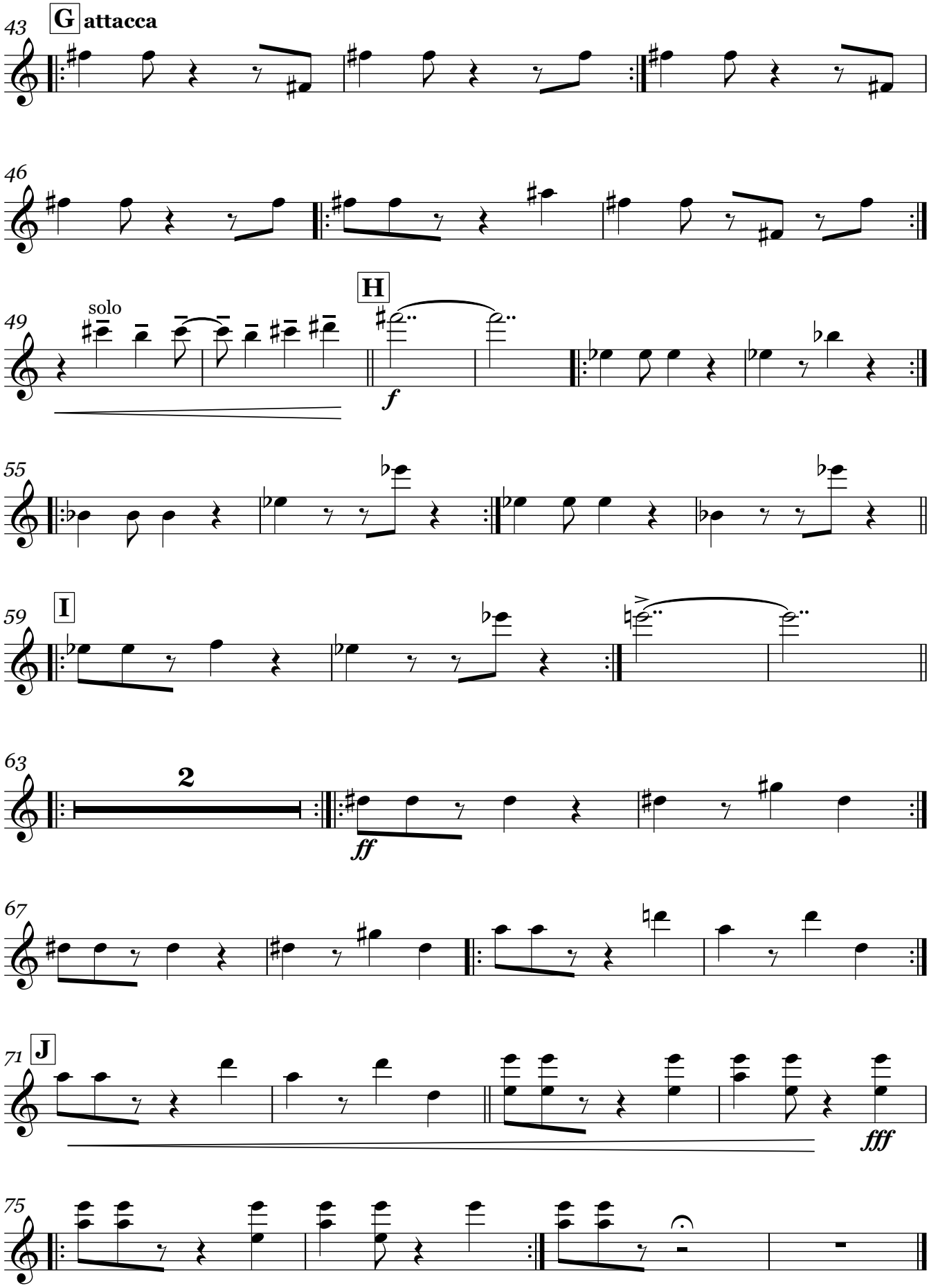
play each repetition
4-40 times, until you
find a good groove

on cue



Stand up and read:
A chair has a single plane of symmetry, which cuts the sphere in a great circle, that is to say, a boundary curve without corners, type *. We might also write 1*, so as to give the star something to hang on to – digits 1 have no signi cance in this notation, except as place-f ers.

II. Gyration points and cone points



Viola

Gyration Point 3.0

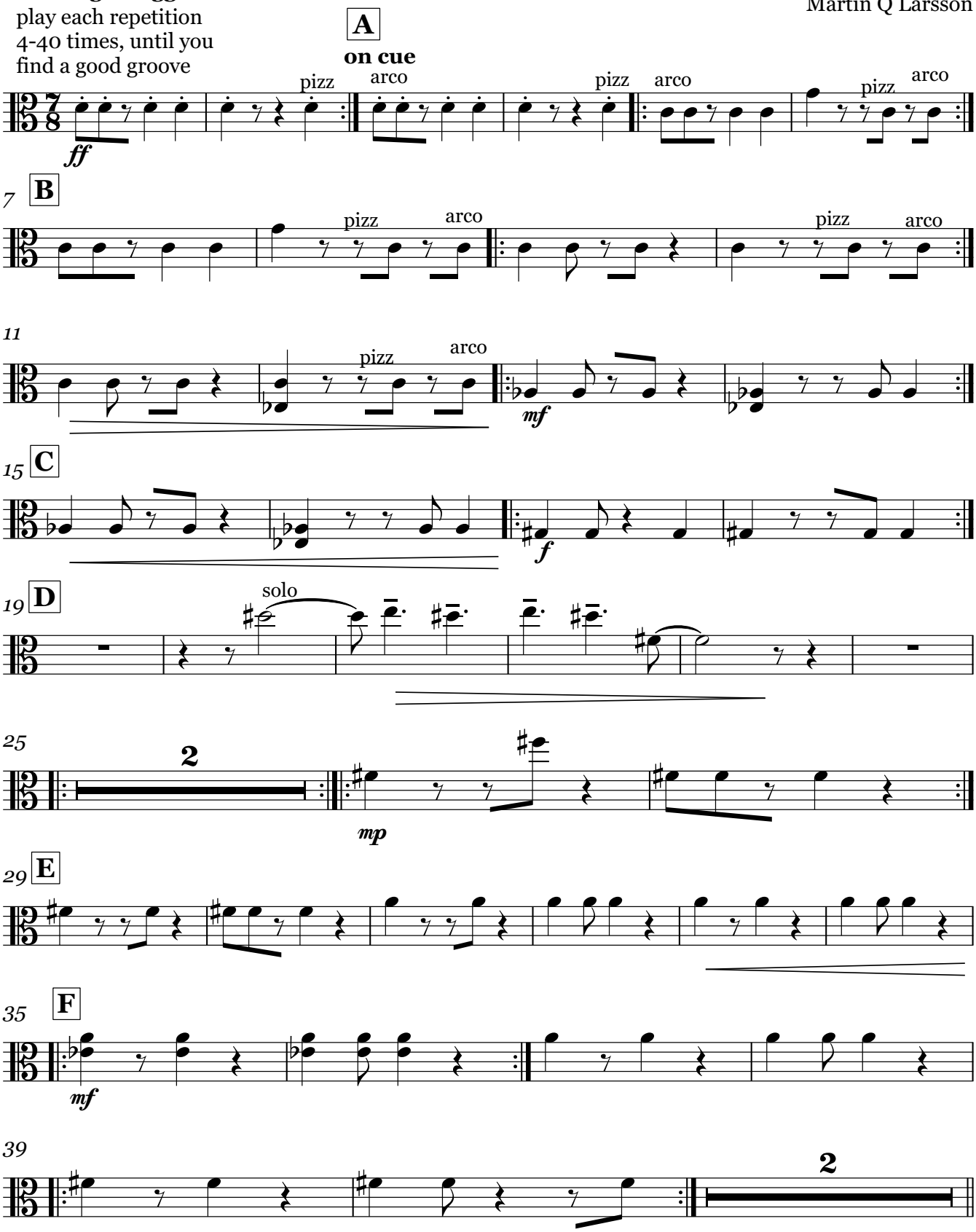
"Even quite ungainly objects, like chairs and tables, will become almost spherical if you wrap them in enough newspaper."

I. Tables and chairs

Allegro leggiero molto

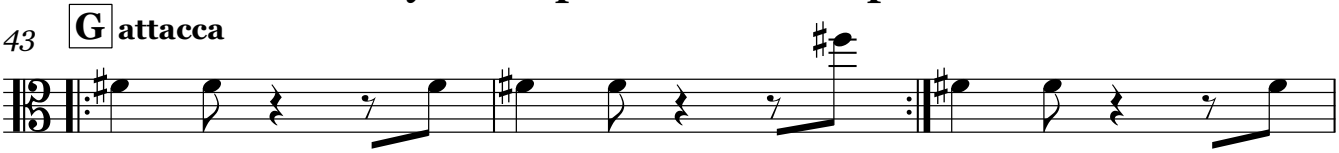
play each repetition
4-40 times, until you
find a good groove

Martin Q Larsson

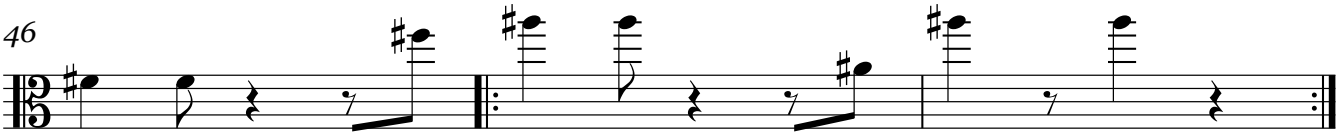


II. Gyration points and cone points

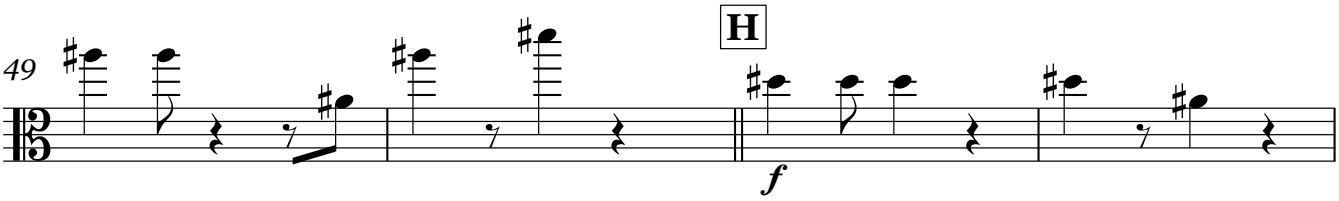
43 **G** **attacca**



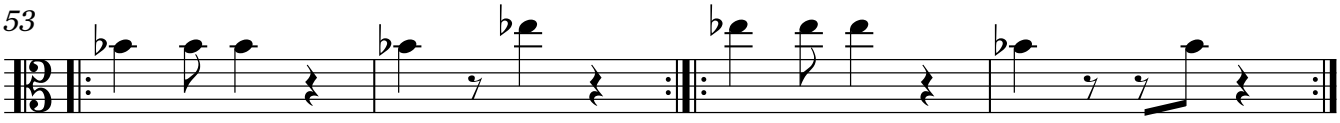
46



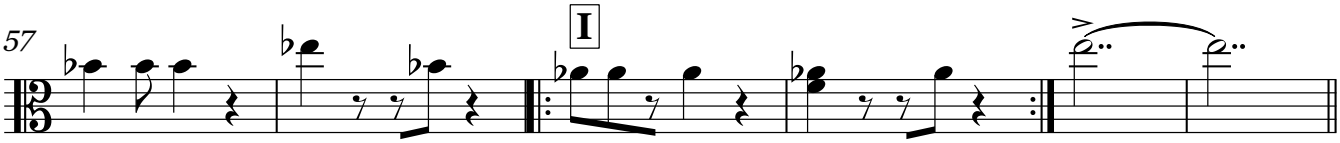
49 **H**



53

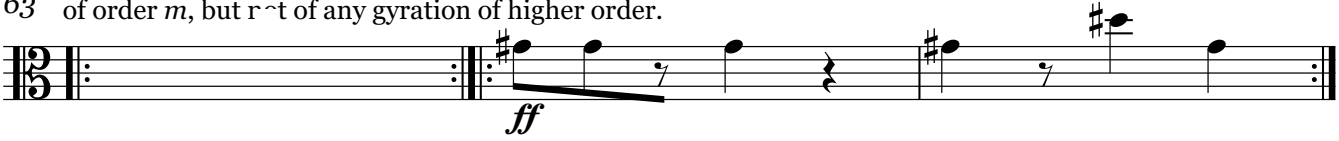


57 **I**

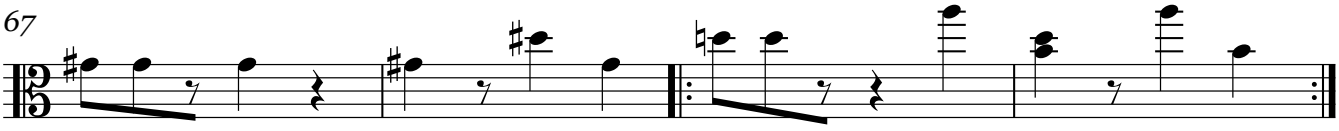


Stand up and read:
A point of the surface is called an *m*-fold **gyration point** if it is the centre of some gyration of order *m*, but not of any gyration of higher order.

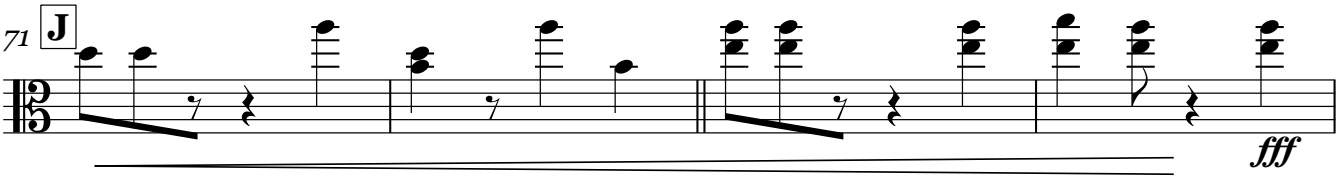
63



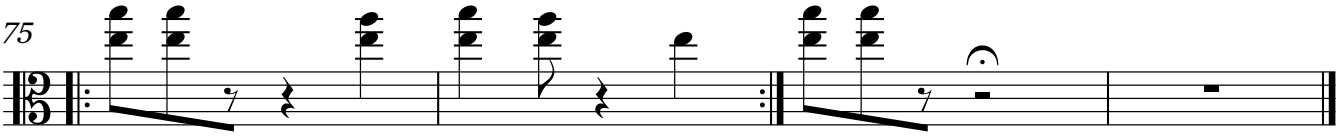
67



71 **J**



75



Gyration Point 3.0

Violoncello

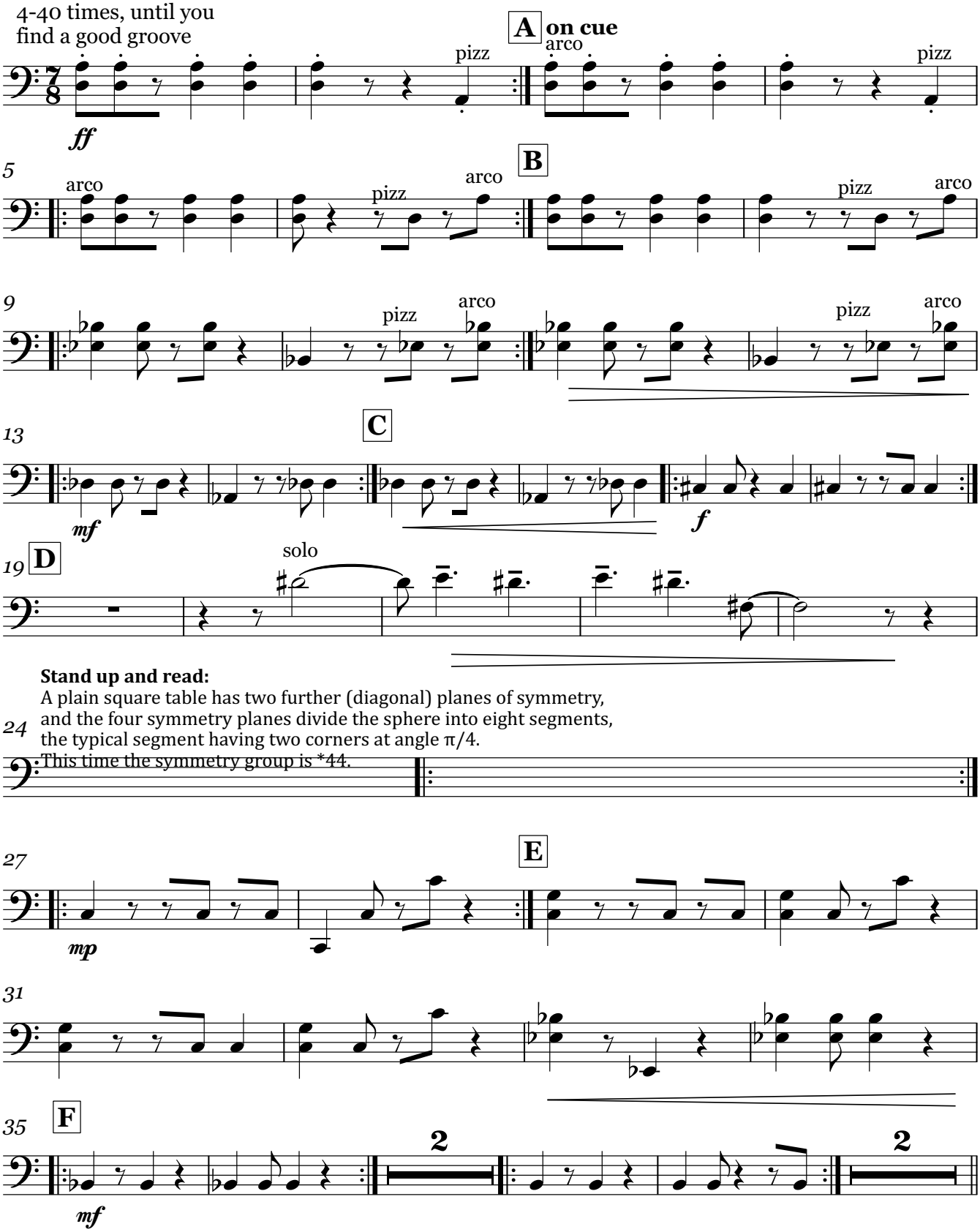
"Even quite ungainly objects, like chairs and tables, will become almost spherical if you wrap them in enough newspaper."

I. Tables and chairs

Allegro leggiero molto

Martin Q Larsson

play each repetition
4-40 times, until you
find a good groove



II. Gyration points and cone points