Daniel Rothman
(2015)

Life Between Tidemarks on Rocky Shores
from Manual of Harmonic Analysis
& Prediction of Tides

One afternoon, several years ago, I found in a box on a street nearby my Venice home ‘Special Publication No. 98 (rev. 1940) of the U.S. Department of Commerce, Coast And Geodetic Survey: Manual Of Harmonic Analysis And Prediction of Tides.’ Three hundred seventeen pages of dry text and tables contrasted starkly with images conjured by the sea green cardstock they’re sewn into. But I heard music in its title. Nevertheless, trying to correlate its principles with periodic harmonic structures, applying formulae of diverse (and complex forces) to derive simple harmonic motion, soon seemed naïve. When it occurred to me, however, that all of life is dependent upon this phenomenon and how it, in all of its abundance, evolves differently, I better understood what the book was really about. A palpable sense of that can be seen in the beautifully detailed illustrations of coastlines made by Alan Stephenson in the 1940s for his zonation studies, and published posthumously by his wife Anne Stephenson in ‘Life Between Tidemarks On Rocky Shores’ (1972). While Stephenson’s drawings, were very much in my mind as I composed, their meaning found underlying sense through the mathematical structures explained in Paul Shureman’s harmonic analysis and tide prediction manual.

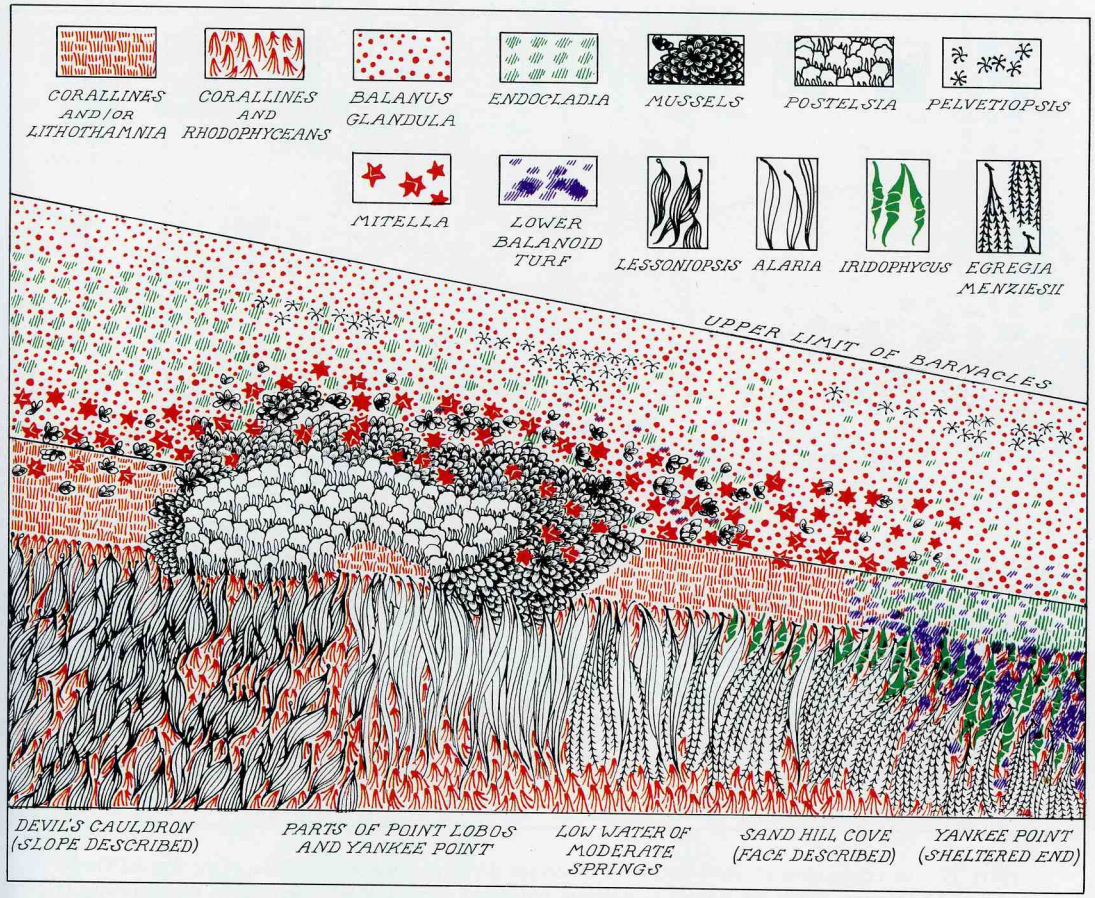
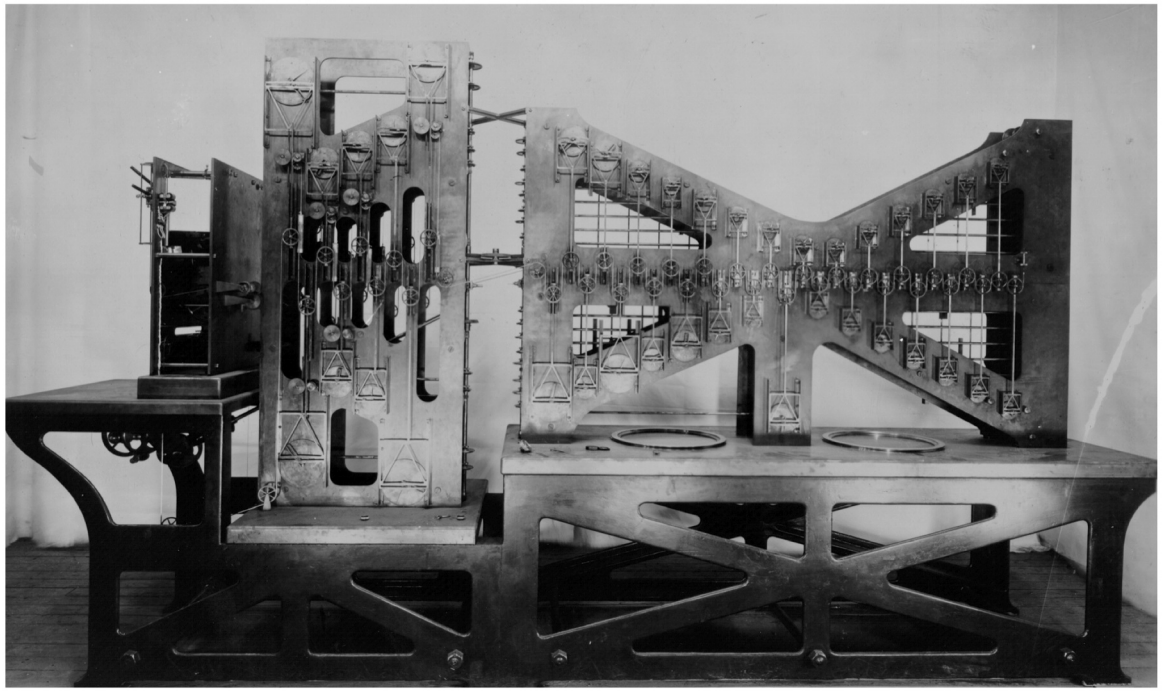


PLATE **16.** A comparison of the zonation of steep slopes at different localities in the Pacific Grove region. The various slopes are subject to different types and degrees of wave action. The line across the centre of the figure indicates the boundary between the upper and lower balanoid zones. Compare Plate 17.



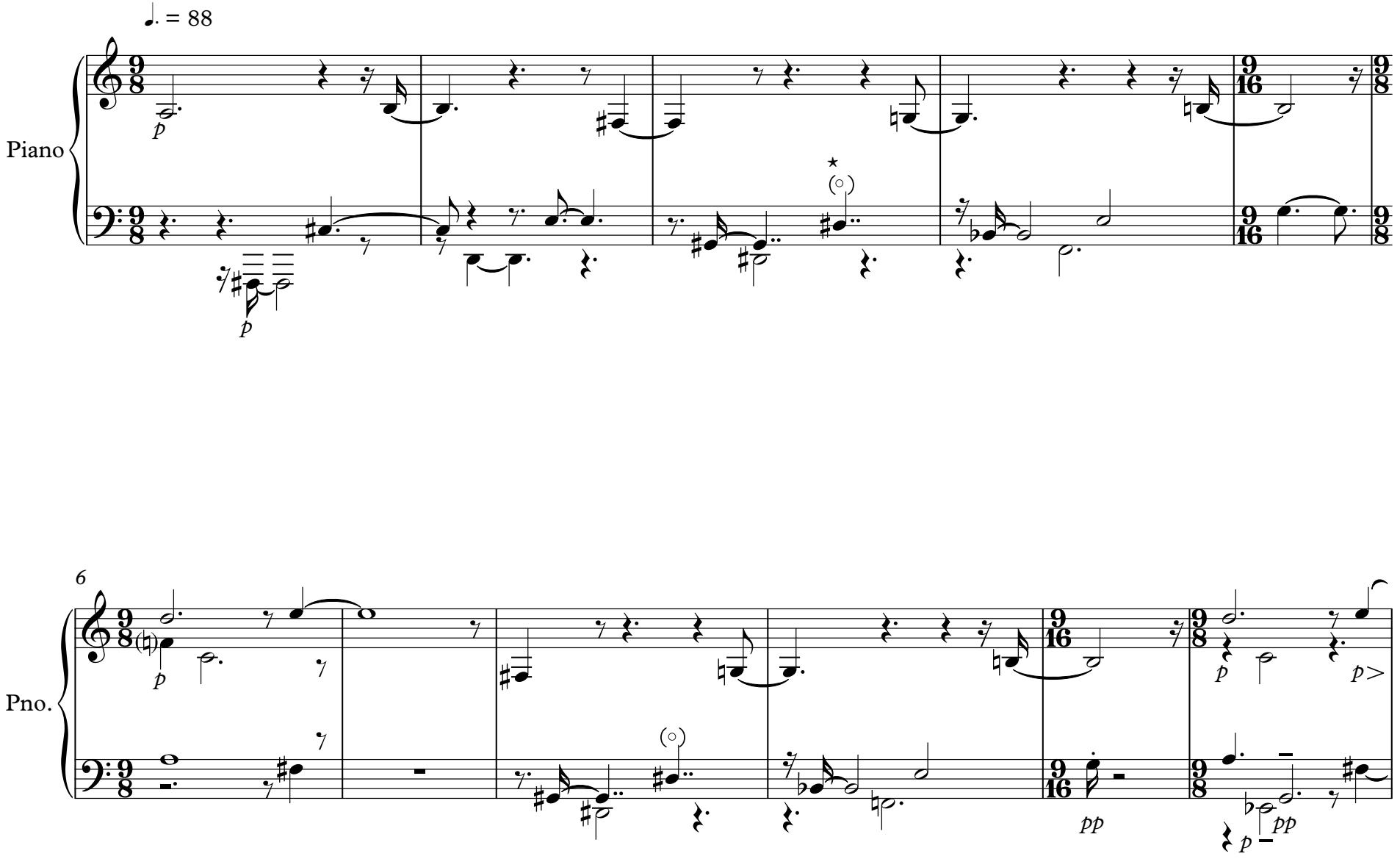
A great deal has changed in the seventy-five years since those books documented tidal behavior and the coastal life that thrived because of it; Stephenson's drawings testify as much to that. And while it is really the concepts behind the Jules Verne-like contraptions invented to measure the level and flow of the oceans that ignited my inspiration (Harris-Fischer Tide Predicting Machine, 1910, time-view, above), Stephenson's pictures showing life from the infralittoral to supralittoral zones on diverse shores is almost as exciting as seeing evidence of life on a distant planet. That is also, it seems to me, what music sometimes is.

*_harmonics_ & **_almost tacit tones_ suggest qualities as much as actual performance instructions. If the option is taken not to play harmonics, then the touch should try to emulate that sonority as best as possible; harmonics should always sound as if they are an overtone heard from the preceedng pitch or pitches, but activated from either the string two octaves below or 12th (octave and fifth). An almost tacit sounding note must be produced as a feeling that the pianist is interpretively satisfied with in its context.

During the process of composing I found myself becoming more and more fussy about dynamic shadings and nuances. Equally, I began feeling to be hampering the music and pianist of many interesting possibilities and decided to eliminate most markings. Nevertheless, I do have very specific ideas and attitudes about both the music and the piano, and understanding them will help inform an interpretive approach. Piano tone is, above all, of primary importance: soft (*p* and quieter) should never be anemic, and loud (*f* and louder) should never distort or thunder; it should never be gratuitous. I favor dynamics on the softer side, reserving louder ones when they are necessary; thus a broad range of nuanced voices with minimal pedaling will produce the best musical results.

Life Between Tidemarks on Rocky Shores

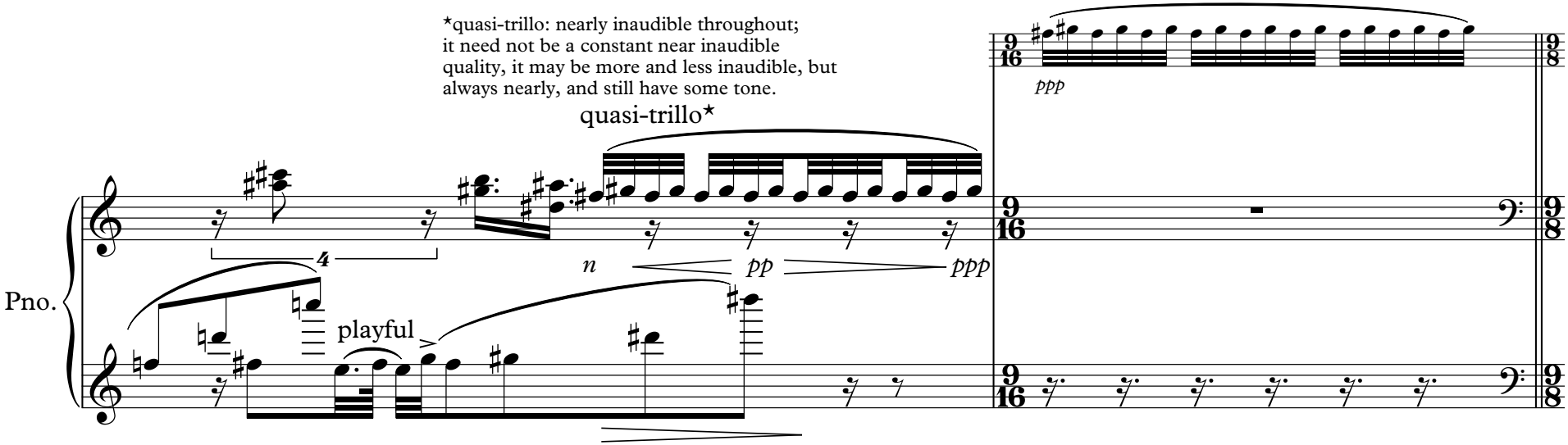
Pt.1 *from* Manual of Harmonic Analysis and Prediction of Tides

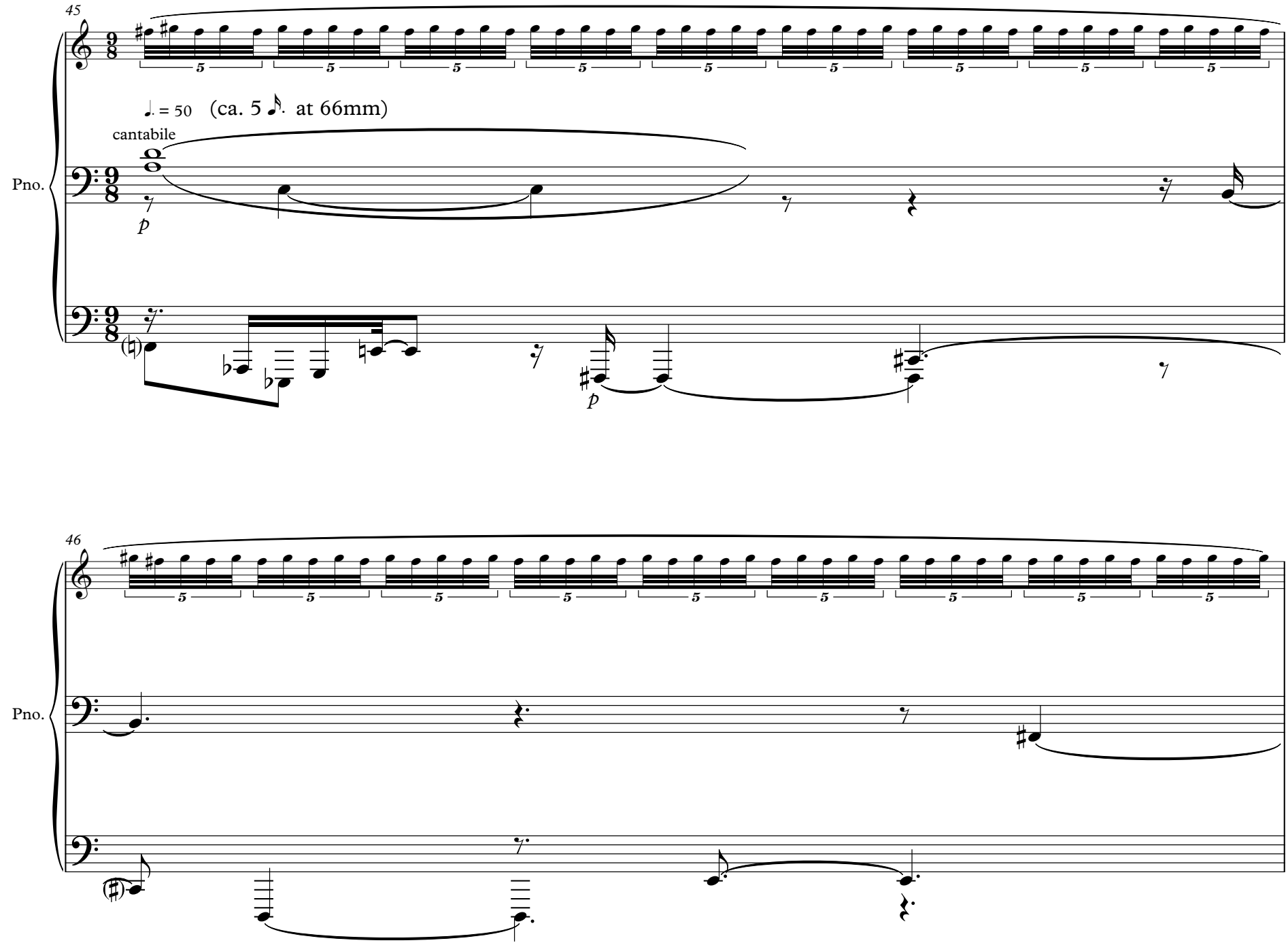



12
Pno.
16
Pno.
pp
pp
21
Pno.
(almost tacit)
★★
♩. = 66 (5 𝅘𝅥𝅯. at 88mm)


24
Pno.
27
Pno.
quasi-niente
pp
31
Pno.
pp
dissolve
into decay
p
dolce
mp
ppp
mp
p
pp
p


35
Pno.
38
Pno.
optional tie
41
Pno.


*quasi-trillo: nearly inaudible throughout;
it need not be a constant near inaudible
quality, it may be more and less inaudible, but
always nearly, and still have some tone.
quasi-trillo*
ppp
Pno.
4
n
pp
ppp
playful


45
♩. = 50 (ca. 5 ♪. at 66mm)
cantabile
Pno.
p
p
46
Pno.

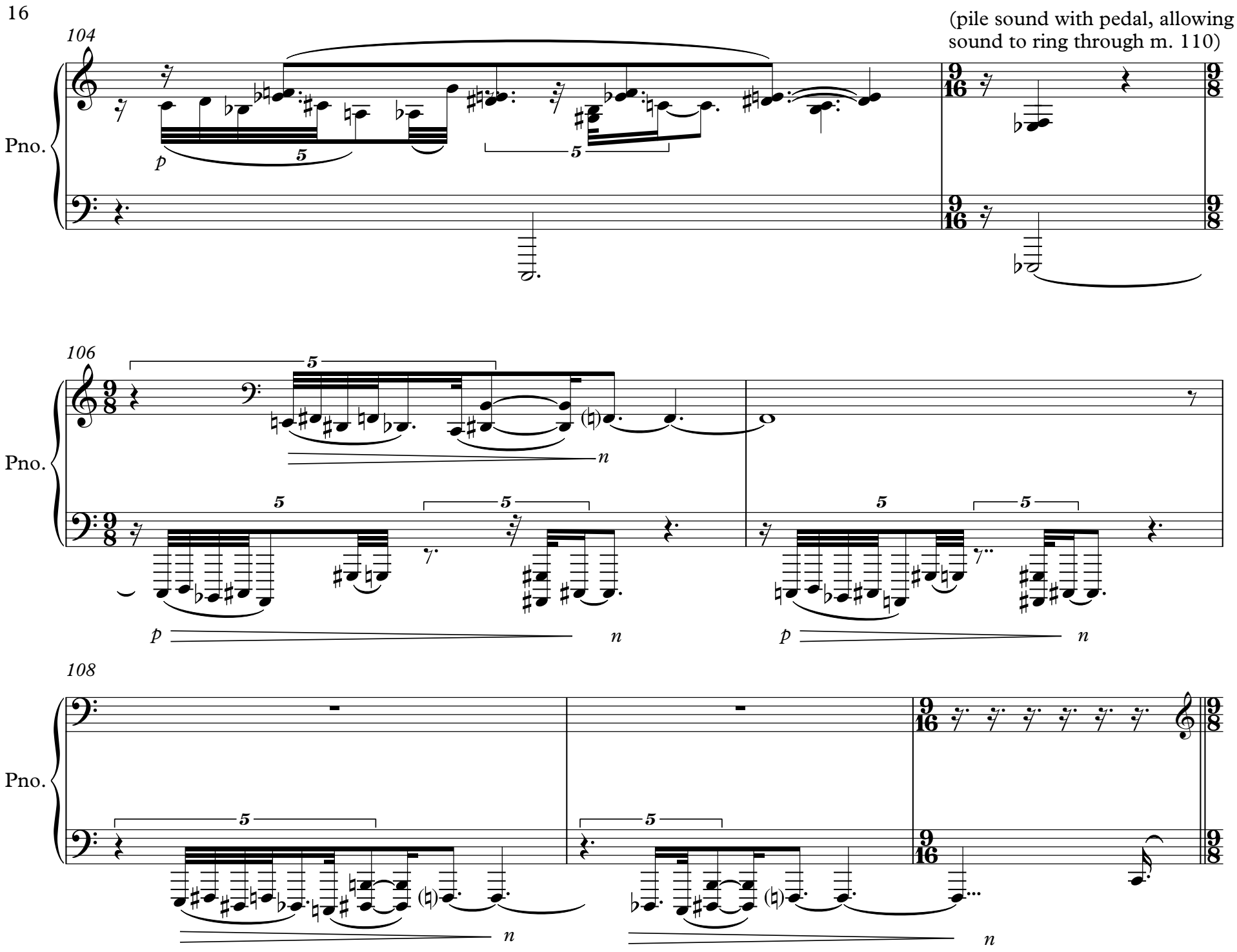

47
Pno.
48
Pno.
9/16
9/8
mp
mp


52
Pno.
p
p
57
Pno.
pp
pp
mp
♪ = 88
64
Pno.


70
Pno.
mp
78
Pno.
più p
82
Pno.
p
pp
pp
p


♪. = 100
89
Pno.
quasi-echo
92
calm
97


99
Pno.
101
Pno.
102
Pno.
p
n


104
(pile sound with pedal, allowing sound to ring through m. 110)
Pno.
106
Pno.
108
Pno.


(ca. ♪. at previous tempo)
♪ = 200
111
Pno.
pp
116
più pp
p
pp
121
Pno.


124
Pno.
mp
129
Pno.
♩. = 88
with deceptive calm and grow wild
p
poco a poco cresc.
p
poco a poco cresc.
134
Pno.


138
Pno.
5
140
Pno.
allow sound to accumulate through end.
142
Pno.
ff
l.v.
9/16
9/8
ff
l.v.
9/16
9/8


145
Pno.
p
Ped.
p
148
Pno.
p
segue pt. II