

# Tuning and Temperament

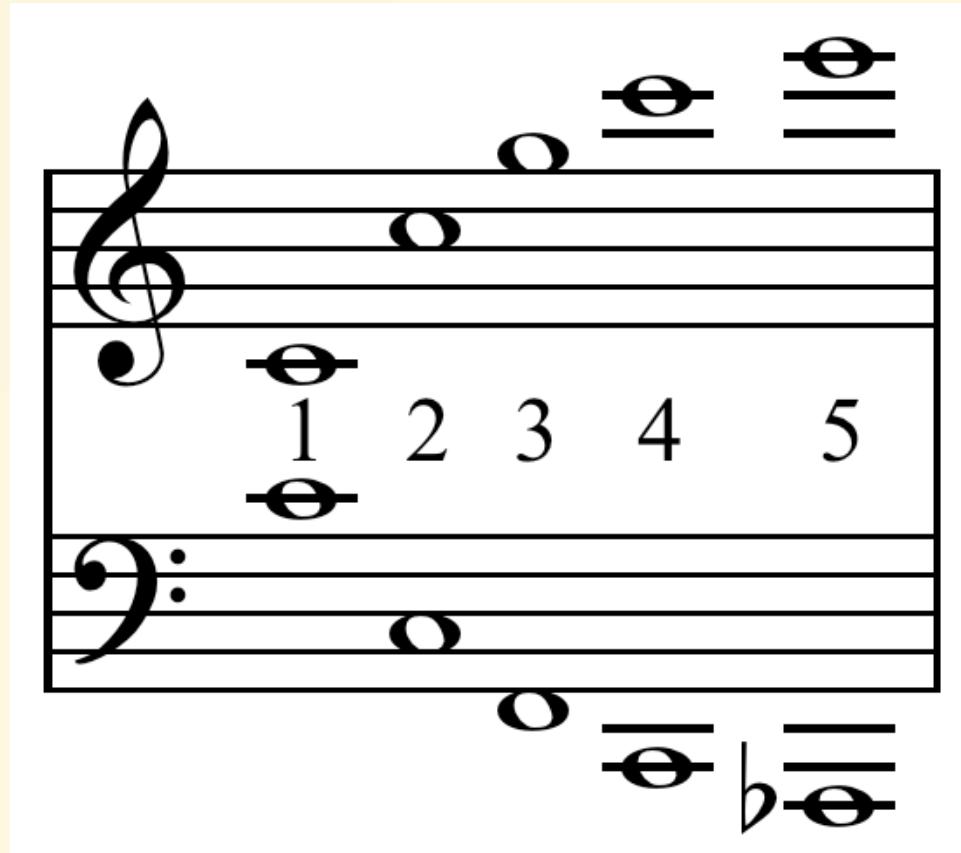
Class 4: Harry Partch's Just Intonation

# Today's Class

- Otonality and Utonality
- The Incipient Tonality Diamond
  - The Diamond Marimba
  - The Quadrangularis Reversum
- **Listening:** Syzygys: *Fauna Grotesque*
- **Listening:** Harry Partch: *Delusion of the Fury* (if time)
- Presentation by Charles Corey
- Homework 2, briefly

# Otonality and Utonality

In a nutshell, the overtone series and the undertone series. Just as the harmonic series goes up, so it can come down.



# Otonality

- The first six notes in the overtone series (corrected for  $\frac{2}{1}$  with duplicates eliminated) are:

$$\frac{1}{1} - \frac{3}{2} - \frac{5}{4}$$

- What does it sound like?

# Otonality

- The first six notes in the overtone series (corrected for  $\frac{2}{1}$  with duplicates eliminated) are:

$$\frac{1}{1} - \frac{3}{2} - \frac{5}{4}$$

- What does it sound like?

Like a "major" chord.

# Utonality

- Implies "minor"
- The first six notes in the undertone series (corrected for  $\frac{2}{1}$  with duplicates eliminated) are:

$$\frac{1}{1} - \frac{4}{3} - \frac{8}{5}$$

- What does it sound like?
- What do you notice about the relationship between these pitches and those of the overtone series?

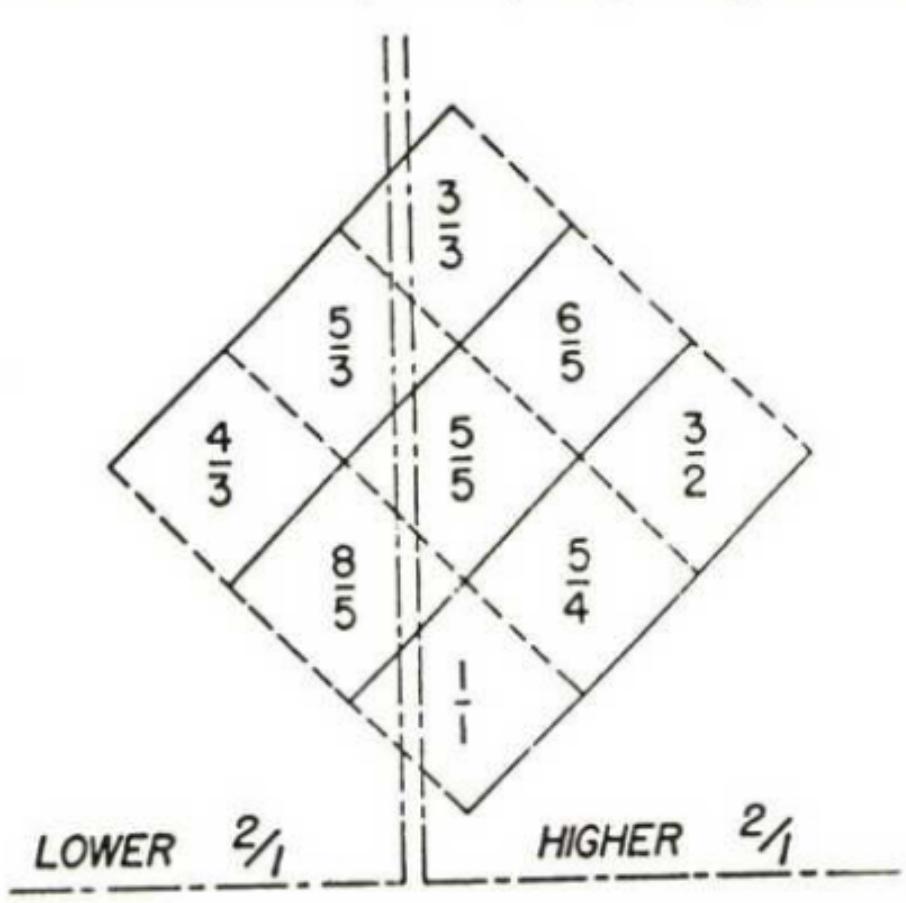


DIAGRAM 5.—THE INCIPIENT TONALITY DIAMOND

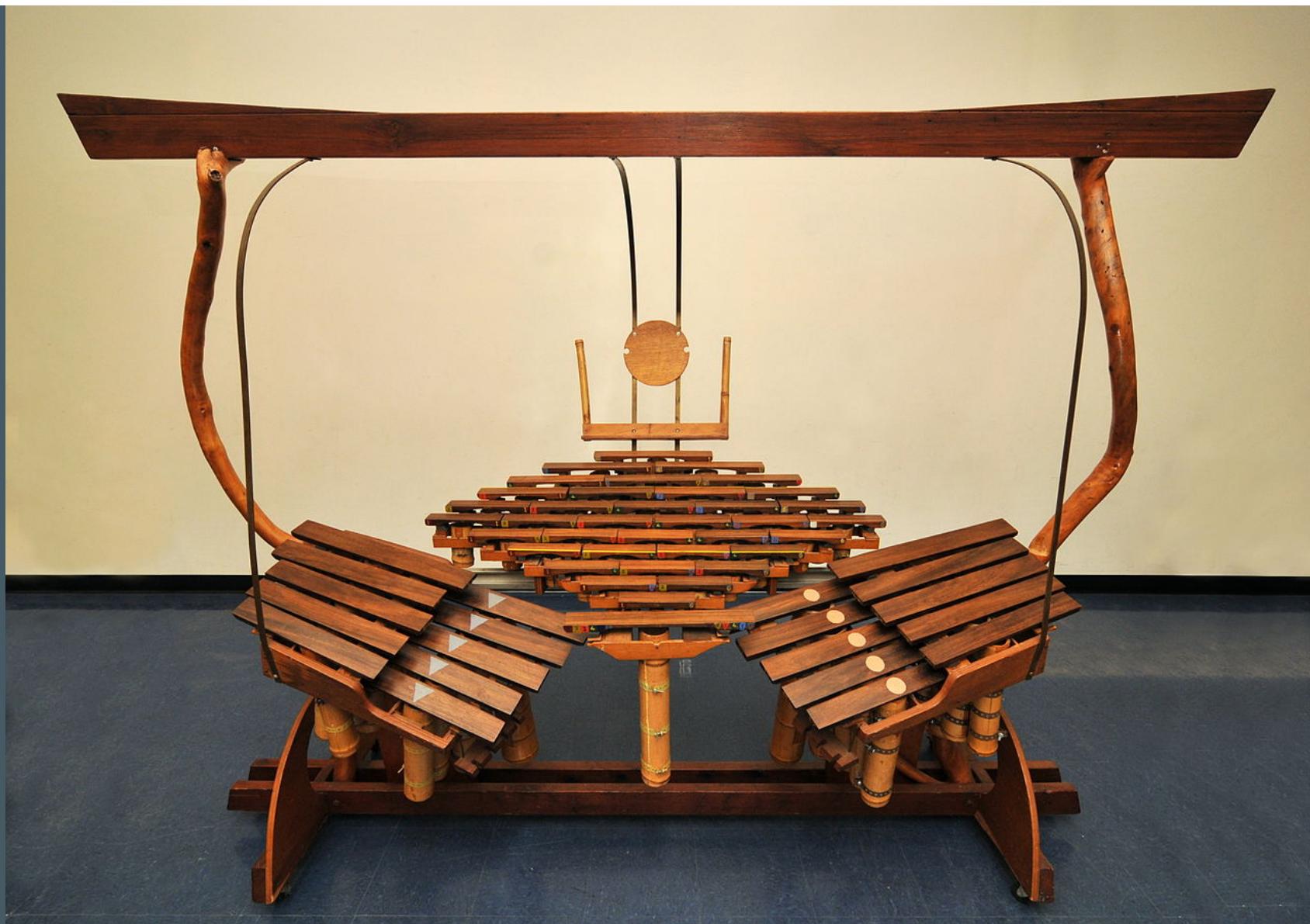
## The Incipient Tonality Diamond

- A little confusing since Partch talks about "going down" from  $\frac{1}{1}$
- Chords going  $\nearrow$  sound as otonal; chords going  $\nwarrow$  sound as utonal.

How does one actually deal with something like a tonality diamond  
with confronted with "real" instruments?

I don't mean to imply that a computer is not a real instrument...







## Listening

Syzygys: Fauna Grotesque

Japanese microtonal pop?

