Robert Fludd, *Utriusque cosmi maioris scilicet et minoris* (Oppenheim, 1617-21)
“On the Two Worlds, namely, the Macrososm and the Microcosm”
Can you identify any intervals below?

Astronomy & Music: Introduction to the Duochord

The ancient Pythagoreans envisioned the heavens as celestial spheres rotating according to harmonious music. For Robert Fludd, the universe was a monochord, its physical structure unintelligible without an understanding of music. Galileo's father, Vincenzo Galilei, experimented with pitch and tuning.

Explore the relations between music and mathematics with a duochord. Make sure that the strings of the duochord are in tune with one another.

**Mathematical Octave - 2:1**
1. Locate the marker on the duochord that divides the string into two equal halves.
2. Place a moveable bridge under the halfway marker of one string and pluck half of the string. The resulting note will be one octave higher than the unaltered string.

**Mathematical Perfect Fifth - 3:2**
1. Locate the markers on the duochord that divide the string into three equal segments.
2. Place a moveable bridge over one marker dividing the string into segments of 1/3 and 2/3 of its entire length. Pluck the long side, or 2/3 of the divided string, to produce an interval of a perfect fifth higher than the unaltered string.

**Mathematical Perfect Fourth - 4:3**
1. Locate the markers on the duochord that divide the string into four equal segments.
2. Place a moveable bridge over one marker dividing the string into segments of 1/4 and 3/4 of its entire length. Pluck the long side, or 3/4 of the divided string, to produce an interval of a perfect fourth higher than the unaltered string.

Jonathan Annis

lynx-open-ed.org
@lynx_open_ed
@galileosworld
@ouhoscollection