Cymatics is the study of the behavior of sound and its effect on matter. This field of study is based on the concept that sound waves can be visualized by the patterns they create in a medium, such as sand or water.

**Chladni Plates**: One popular example of this is the Chladni Plate, named after the German physicist Ernst Chladni. The Chladni Plate is a flat metal plate that is vibrated at a specific frequency, causing the plate’s surface to become covered in patterns of sand. These patterns are a visual representation of the different frequencies of the sound wave and provide a fascinating insight into the interaction of sound and matter.

We have set up these plates in our sound garden and even put them up at Serendipity Arts Festival in Goa. Watching the sand dance and form intricate patterns in response to the vibrations of the plate is extremely mesmerizing and a testament to the power of sound and its impact on the world around us. It’s fascinating to see that many patterns seen on the plates are very similar to shapes and patterns we see in nature.
Water Sound Images: Another experiment to demonstrate resonance and harmony produced by sound waves is “Water Sound Images” named after Alexander Lauterwasser’s book Wasser Klang Bilder (Water Sound Images) with imagery of water surfaces set into motion by sound sources ranging from pure sine waves to music by Ludwig van Beethoven, Karlheinz Stockhausen and even overtone chanting. The exact pattern that is formed depends on the specific sound frequency being used, as well as the properties of the water and the container used in the experiment. This was set up at Serendipity Arts Festival in Goa as well where a midi keyboard was used to input specific frequencies (ranging from 24 hz to 48 hz) to vibrate the water. A ring light was used to visualize the patterns formed at different frequencies which were projected onto a screen using a camera as can be seen here.
Eidophone: Another cymatics experiment based on the use of voice to form patterns with sand is the Eidophone. Eidophone or Tonoscope was conceived and produced by Margaret Watts Hughes, a popular Welsh opera singer, to measure the power of her voice. This device helps in visualizing sound waves by forming patterns at specific resonant frequencies. Several such voice figures can be obtained by singing various notes i.e. different frequencies into the eidophone, which is still under experimentation. You can watch some of the initial experiments here.