

1135-F1-2149 **Maria C Mannone*** (manno012@umn.edu), Minneapolis, MN 55455. *Categories and Arts: Some cARTegory Theory of Music and Visual Arts.*

Can we “say (something about math) with flowers?” The formalism of category theory can be successfully applied to classify and investigate transformational processes of shapes of plants and flowers, as well as other images from nature. Through the same formalism, we can create a model of objects and processes that are relevant in music. In daily practice, musicians deal with objects, transformations, and transformations of transformations: for example, a crescendo connects different levels of loudness; an accelerando transforms a slow crescendo into a fast crescendo. Moreover, sonification strategies (translational processes of some data into sounds) may be enhanced through a categorical description: we are not only able to hear “the sound of a drawing” but we can also convert a transformational process in visual arts into a transformational process in musical art. These techniques themselves might unfold new strategies to creatively explore the fundamentals of category theory. Artworks of different media can be compared, highlighting eventual similarities between the technique to make drawings and the technique to make music. Some working examples deal with the musical rendition of flowers, animals’ armors, and cathedrals’ profiles. (Received September 25, 2017)