

Lyot: A History of Ice and Water

Abstract 1873 - The motivation for this piece of music is my PhD researching the history of water in and around Lyot crater located in the northern latitudes of Mars. I wanted to create a piece of ambient music, inspired by artists such as Brian Eno, to tell the story of Lyot from before its' formation until the present day. This story begins with a barren, cold, desert world peppered with occasional small impacts, representing Mars at the end of the Hesperian/beginning of the Amazonian. The music builds and changes as a large impactor enters the Martian atmosphere and strikes the ground causing intense earthquakes and irrevocably altering the landscape. During this event a subsurface ice-rich layer is punctured leading to catastrophic flooding and throwing out water and ice onto the Martian surface around the crater. This event forms large outflow channels to the north of the crater and leads to the deposition of an ice-rich layer of ejecta (material thrown out by the impact event). Over time the environment around the crater settles but water and larger volumes of ice are now present. Periods of high obliquity lead to the formation of Martian rivers as a result of the melting of ice rich deposits. The water flows down the crater walls, occasionally pooling in depressions. Icy interjections in the music tell of glaciers flowing down the crater rim and the deposition of ice-rich mantles. Unusual interjections in the background sound represent the formation of strange features: polygons whose borders are demarcated by large boulders (Abstract #1873). Eventually the music settles to familiar notes from the beginning of the piece but this time with some icy notes and water sounds. This represents present day at Lyot crater where it is once more a cold and arid desert environment but with the history of water and ice recorded in the landscape. I created this piece of music using Logic Pro X, Analog Lab 3 and an Arturia Keylab midi controller. The music features 9 separate tracks, each played in by myself on the midi controller using different presets selected from Analog Lab 3. I would like to acknowledge the designers of the presets that I used: Jean-Baptiste Arthus, Randy Lee, Christian Giudicelli, Jean Michel Blanchet, Nori Ubukata and Ed Ten Eyck.