

*Terraformation* was written at the behest of Father Arthur Bridge and Ars Musica Australis, with the understanding it be a suitable vehicle for promoting contemporary 'art' music in Western Sydney. The piece draws its inspiration from Kim Stanley Robinson's 'Red Mars', a popular, populist science fiction novel whose central premise is the colonisation of Mars. The author's speculative forays include the concept of 'terraformation', a series of geochemical processes whereby an uninhabitable planet is made livable. The four movements of this work are musical descriptors of some of the technology used in the book to realise this idea.

The first is concerned with the soletta, an artificial satellite orbiting Mars, which is made up of a multitude of adjustable mirrors. Its function is to focus the rays of the sun in such a way as to boil great tracts of the planet's surface (Prelude). This in turn causes considerable quantities of carbon dioxide gas to be released into the atmosphere, which contributes significantly to the general process of global warming, a crucial factor in creating Terran conditions (Double Canon).

The subject of the second movement, the windmill, has a similar function. A great number of these edifices are placed all over the surface of the planet, converting Mars's endless heavy wind-flows and sandstorms from kinetic energy to heat.

*Cyanophyte primares*, the focus of the third movement, is a form of bluegreen algae genetically engineered to survive on pre-terraformed Mars. Ideally, its life cycles would breathe oxygen into the air and form the foundation for future, more complex ecological systems. The exact nature of its long-term effects, however, is unclear: for all anyone knows, it could induce a major environmental disaster.

The last movement centres round a contraption known as the permafrost pump. These devices are designed to melt the frozen tundra of the Martian poles, which in turn would release vast amounts of liquid water onto the lifeless landscape of the red planet. The theory then is that the newly aquatic environment would enable life to take its own course, just as similar conditions did on Earth.

This sonata was realised as quasi-programmatic in order to make the generally acerbic, modernist surface more palatable to an audience unfamiliar with contemporary classical music. In this way, the musical discourse can be given meaning by a certain number of directed extramusical narratives, even when an understanding of its inherent syntax is not possible. Furthermore, the forms of the four movements- Prelude and Double Canon, Scherzo, Passacaglia and Rondo-Sonata- are based on traditional models that may be more familiar to the target audience. The fact that as subtitles, they would be stated explicitly in any programme, creates yet another avenue whereby the somewhat austere character of this work can be appreciated.