Sofia Gubaidulina is a composer whose works have received recent scholarly attention due to increasing popularity of Philip A Ewell's work, *The Parameter Complex in the Music of Sofia Gubaidulina*. In this paper he explains the parameter complex, a system of categorization that can be used to analyze Gubaidulina's early works and uses to analyze several pieces. This system takes different musical aspects and categorizes them between consonance and dissonance. This idea of consonance and dissonance relates to Gubaidulina's views on religion, as she often uses musical symbols to signify religious scenes or ideas. I am planning to add to his work by using the parameter complex to analyze her *in croce for Cello and Organ*, a piece which is rife with religious symbolism, as in croce roughly translates to "on the cross." Specifically, I will be defining a parameter complex for the work and using those parameters to examine the relationship between the cello and organ lines, representing the titular crucifixion. I also investigate how physical gestures could be interpreted to signify ideas about religion or the crucifixion.