

# ANALYSIS OF SPECTRA IN J. S. BACH'S PRELUDE AND FUGUE, BWV 552

Timothy Corlis

## INTRODUCTION

This article presents the basis for an analytical method that emerged while considering the influence of organ tuning on the practice of composition in Bach's Prelude and Fugue in E $\flat$  Major from *Clavier-Übung* III, BWV 552. This mode of analysis involves a microscopic look at the theoretical relationships among various harmonic series at work when the music is performed. While the analysis is limited in its scope to the first few bars of the two works, it offers insight into the pragmatic considerations that accompanied effective implementation of temperament and registration in the organs of J. S. Bach. Such insight into the practical strengths and limitations of these instruments, derived from the musical artifacts themselves, acts as a valuable tool when attempting to reconstruct a historical viewpoint of Bach's practice as a composer.

While the analysis offered here is theoretical, it directly extends Herbert Anton Kellner's historical and practical investigations of the tunings Bach used for his keyboard instruments. Its theory also relies on scholarship in the area of Bach's organ registration including work by Quentin Faulkner and George Stauffer. Finally, the analysis relies on experimental research pertaining both to auditory perception and to the physics of how pipe organs generate sound.

My central objective is to establish how organ tuning influenced the composition of the Prelude and Fugue in E $\flat$  Major. What considerations were immediate in Bach's mind in view of the organ's acoustical properties? What decisions did he make, as a composer, to