

Abstract

Music theory has been a part of culture ever since music was invented. In 20th century academic circles, theorists came up with a way to explain the growing trend of atonal music using their own version of set theory, where conventional diatonic and triadic harmony (older Western tradition) was not needed. Unfortunately, this set theory, which is now taught in school to music students, is only maximally useful in the most used tuning system of the last 100 years, 12-tone equal temperament. Microtonal music theory, which nowadays implies music that is not tuned in 12-tone equal, is more intriguing than ever before in the 21st century, just as atonality was in the 20<sup>th</sup> century. This thesis aims to describe a new set theory that I propose, that unites the worlds of microtonality and set theory into one discipline. My theory brings an intelligible microtonal framework to the set theorist, and it brings more useful information about scale categorization to 12-equal than the current set theory alone provides. It is, to sum up, a more thorough and universal method of categorizing scales, because it utilizes their intervallic relationships instead of their pitch classes. In order to apply useful mathematical principles, I have mainly drawn upon the disciplines of permutations and partitions; other citations to mathematics are also included as well.

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