

'The purpose of *New Musical Resources* is not to attempt to explain the materials of contemporary music, many of which are not included in its discussion, but to point out the influence the overtone series has exerted on music throughout its history, how many musical materials of all ages are related to it, and how, by various means of applying its principles in many different manners, a large palette of musical materials can be assembled.' [x]

'The result of a study of overtones is to find the importance of relationships in music and to find the measure by which every interval and chord may be related. It is discovered that the sense of consonance, dissonance, and discord is not fixed, so that it must be immovably applied to certain combinations, but is relative. It is also discovered that rhythm and tone, which have been thought to be entirely separate musical fundamentals (and still may be considered so in many ways) are definitely related through overtone ratios. Therefore the theory proposed may be termed a theory of musical relativity.' [xi]

'Divisions of the octave into mathematically equal parts form the basis for the scales in much music. Javanese music divides the octave into five equal parts; Siamese music uses a scale on nine equal division of the octave. The whole-tone scale as used by Debussy and others divides the octave into six parts. Our own keyboard instruments divide the octave into twelve parts, and Schönberg bases his new theoretical system on such a division. The quarter-tone scale as proposed by Alois Hába and others would divide the octave into twenty-four equal steps, these divisions are not unrelated to the overtone series, as the intervals they form can be found among overtone relationships. Other systems of temperament more immediately related to the overtone series deal with unequal or diatonic divisions of the octave. Interest in differences of temperament comes largely through consideration of scales. In this work it is suggested that scales as well as other aspects of music are related to the overtone series, which is a scale in its upper reaches, a harmony in its lower reaches, and a basis for rhythmical co-ordination.' [xiv]

'Assume that we have two melodies moving parallel to each other, the first written in whole notes, and the second in half-notes. If the time for each note were to be indicated by the tapping of a stick, the taps for the second melody would recur with double the rapidity of those for the first. If now the taps were to be increased greatly in rapidity without changing the relative speed, it will be seen that when the taps for the first melody reach sixteen to the second, those for the second melody will be thirty-two to the second. In other words, the vibrations from the taps of one melody will give the musical tone C, while those of the other will give the tone C one octave higher. Time has been translated, as it were, into musical tone. Or, as has been shown above, a parallel can be drawn between the ratio of rhythmical beats and the ratio of musical tones by virtue of the common mathematical basis of both musical time and musical tone. The two times, in this view, might be said to be "in harmony," the simplest possible.' [pps. 50-51]