

Proceedings of the Iowa Academy of Science

Volume 40 | Annual Issue

Article 104

1933

An Analysis of Tone Quality of Orchestral Instruments

Donald A. Rothschild
State University of Iowa

Copyright ©1933 Iowa Academy of Science, Inc.

Follow this and additional works at: <https://scholarworks.uni.edu/pias>

Recommended Citation

Rothschild, Donald A. (1933) "An Analysis of Tone Quality of Orchestral Instruments," *Proceedings of the Iowa Academy of Science*, 40(1), 189-189.

Available at: <https://scholarworks.uni.edu/pias/vol40/iss1/104>

This Research is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Proceedings of the Iowa Academy of Science by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

given musical selection ($\frac{3}{4}$ time) apparently for the purpose of measure accent. Successive changes in stress do not account for measure accent nor do they operate with time changes to enhance the accent. Measurements are based upon recordings on the Iowa Piano Camera of the chorale section of Chopin's Nocturne, No. 6 (Opus 15, No. 3).

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

AN ANALYSIS OF TONE QUALITY OF ORCHESTRAL INSTRUMENTS

DONALD A. ROTHSCHILD

Sound waves from the instruments of the orchestra were phonophotographed, and by means of the Henrici Harmonic Analyzer the tone quality of each instrument was determined. Three notes covering the range of their registers, were taken of the wind instruments. An intensive series was taken from the string instruments to determine some of the differences in quality due to use of the mute, varied pressure in bowing, differences in fingering, and differences in structure of the instrument.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

THE PATTERN SCORE IN SCIENTIFIC STUDY OF MUSIC

HAROLD SEASHORE

The pattern score, developed in the psychology of music to express the facts pertinent to both music and psychology, is here demonstrated in its more complete form. There is presented a sample of a song graphed on the pattern score which coordinately records the melody curve, the intensity curve, sample timbre analysis, durational aspects, facts from the musical score and phonetic elements. In its standardized form the pattern score fulfills the requirement that the basic musical and scientific concepts must be presented visually in adequately coordinated relationships.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.