

Joshua B. Mailman:
Temporal Dynamic Form in Music: Atonal, Tonal, and Other

Abstract

The dissertation identifies *static* and *dynamic* as opposing types of metaphor that govern theorizing about music and influence all musical thought. Static metaphors (such as *structure* or *architecture*) dominate. The dissertation argues, however, that *dynamism* is (1) a sporadically recurring tendency in musical thought from Aristoxenus to the present day; (2) an increasing tendency in musical composition of the 20th and 21st centuries; and (3) a tendency that has been gaining momentum in music theory discourse over the last twenty years.

The dissertation then asserts that, in some situations, musical *form* can and should be interpreted as dynamic (as opposed to architectonic, structural). Musical form, whether static or dynamic, may be conceived abstractly in a variety of ways. I focus, however, specifically on musical form as deriving directly from the purely temporal presentation of music, thus: *temporal dynamic form*.

For this purpose, certain aspects of time and temporality are theorized, and formalized procedures for analyzing *temporal dynamic form* are developed. The procedures are primarily computational. They represent temporal dynamic forms as contour graphs resulting from computational output. Mostly, the contours do *not* depict the flux of basic linear attributes such as pitch or loudness, but rather the flux of newly asserted *emergent qualities (properties)*, analogous to temperature and humidity, whose flux can be sensed approximately but also computed precisely. Phenomenology of listening inspires the assertion of the various emergent qualities. It also informs the computational modeling of them. This feedback-oriented approach constitutes a *cybernetic phenomenology*, in that fluctuating qualities are sharpened, refined, and communicated in a precise way through the development and use of

computation. Thus the rationale for the computational aspect of this approach is explained as deriving from philosophical theories of aesthetics (critical communication), epistemology, and temporality. The rationale for depicting temporal dynamic forms as contour graphs is explained as deriving from cognitive linguistic theory of metaphor (*image schemata*), which enables the analogy from basic linear attributes (such as pitch and loudness) to more holistic, emergent, qualities which are seldom addressed directly in formal discourse about music.

The effectiveness of this approach to temporal dynamic form analysis depends largely on repertoire. Most of the demonstrational analyses treat 20th century avant garde, atonal, 12-tone, or post-serial music (Stravinsky, Schoenberg, Berg, Ives, Babbitt, Carter, Stockhausen, Berio, Wolpe, Feldman, Reynolds, Reich, Tenney, Morris); this repertoire happens to follow the advent of mechanical sound reproduction and manipulation. Yet some of the demonstrations analyze heterostrophic (non-strophic) monophonic vocal music (lais and planctus) of the Middle Ages; this repertoire happens to predate the widespread use of music notation. Isolated examples from the Renaissance and common practice periods are also presented (Dufay, Isaac, Josquin, Lasso, Monteverdi, Gabrieli, Rameau, Haydn, Beethoven, Chopin, Wagner). The computational models also offer new ways to differentiate styles and characterize compositional practices in varied repertoire. New generalizations about form, style, and genre are revealed.

The thesis of the dissertation is that often musical form is profitably conceptualized as the retrospective contour of the flux of intensity of qualities. (Such a contour is a *temporal dynamic form*.) That is, any quality (whose intensity can be defined through computation) can form the basis of form in music, in that its flux over time can be interpreted as form. The dissertation theorizes and identifies many such fluctuating qualities (varying from familiar to unconventional) as they occur in repertoire. In fact, contrary to the assumption that there is a small fixed set of quantitative dimensions in music, the dissertation shows there are

innumerable quantifiable qualities whose flux of intensity bears form in music.

By conceptualizing musical form in this holistic way, *temporal dynamic form* models (and their analytical application) demonstrate new connections between composition, interpretation, and listening. Some of these pertain to narrative and cross-modal expressivity. In this regard, the dissertation reveals new relations between melody and philosophical-theological-cultural aspects of text in medieval songs and new relations between dramatic expression and melodic construction in Baroque opera. Other aspects of the theory mediate between compositional design and surface. In this regard the dissertation reveals ways of mediating between the simple cantus firmus driven compositional designs and much richer surface-textural flux in Renaissance polyphony, and ways of mediating between the architectural complexity of serial 12-tone compositional design and the turbulent complexity of its composed surface.

Insofar as dynamic form is a way of thinking about music, it is both new and old. The dissertation aims to enhance the role of dynamic form in musical thought by looking forward and back, not only by defining a class of procedures that can be used for its analysis, and by defining and demonstrating many such procedures in this class, but also by reflecting on dynamic form theory's myriad connections to old and new developments in philosophy, science, and music theory and practice. Thus, without trying to limit music, the proposed dynamic form theory suggests some specific modes for forging music's future from its past in new ways and connecting music to other so-called non-musical activities and experiences. By theorizing musical flux as open-ended, but precisely modeling many instances of it, the dissertation's presentation of temporal dynamic form theory promotes a pluralistic expansive view of music.