

# contact

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SOUND STRUCTURE IN MUSIC, by Robert Erickson  
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If persuaded to pass some judgement on the most significant development in Western music since the stabilising of the tonal system in the Baroque period, some musicians might vote for the downfall of the tonal system, some might select progress in the escape from metre towards total durational flexibility, some might wish to emphasise ideology or technical advances, and others might champion changes in formal thinking. But to me there is little present doubt that the once nebulous field of timbre has been gathering enough momentum since the 19th century to come top of the list. For we can view the tonal system, its precursors and extensions, not only as triumphs in themselves but also as the thin end of a wedge: we can see pitches and their aggregates in harmonies as one end of a continuum stretching from pitches to non-pitches, from single notes through chords to sound masses. Such an historical pronouncement needs more thought and examination than such a grand generalisation, and this is what Robert Erickson cogently sets out to do in this book.

There are two important consequences which the book highlights, two questions which cannot be overstressed. Firstly, music is an interdiscipline: we can no longer talk fruitfully about music in terms of music alone. The progress and research in other disciplines reverberate around music and cannot be ignored by composers, performers or thinking listeners. Erickson approaches acoustics, psychoacoustics, biology, physics, ethnology, psychology and philosophy as a musician. Above all, his book is about perception — what is perceived, and what can and could be perceived. Secondly, the academic pigeonholing which even now continues in music education institutions (even the most 'progressive') is no longer valid. Orchestration, harmony and counterpoint, acoustics, aural training and stylistic studies can no longer be productively divided. Timbre, therefore, embraces not only other disciplines, but cuts across the traditional artificial chastity of distinctions within music.

Erickson divides his book into six chapters: (1) 'The Sounds Around Us', (2) 'Some Territory Between Pitch and Timbre', (3) 'Timbre and Time', (4) 'Drones', (5) 'Klangfarbenmelodie: Problems of Linear Organisation' and (6) 'Timbre in Texture'. Each chapter is subdivided, sometimes into as many as twelve sections, and every idea is supported by constant reference to research work and carefully selected music examples taken from sources as widely ranging as Berlioz and Erickson's Californian colleagues, the drols of Indian drumming and Schwitters' Dadaist poem *Sonata in Primeval Sounds*.

The first chapter introduces the scope of timbre. Parallels are drawn with the sounds of speech, a dangerous procedure since the speech mode of listening and the music mode of listening are quite different. Erickson is intelligently cautious, suggesting that although the two are different we can still make use of insights into speech research. A thumbnail definition of timbre is an impossibility these days, because we now realise that the Helmholtz description we have lived with until recently is severely straightjacketed, though pardonably so since the music of his time has emphasised timbre as a *carrier* of pitch, as a nuancer of notes rather than an *object* in itself. If we are to attach more importance to the object function than to the carrier function this means an intensification of perceptual effort, focussing on aspects of a sound's life which up to our time have not been so important in musical composition, and therefore not recognised. Up to this century we have been educated for timbre constancy in an environment where timbre has thrown pitch into relief. The results of the growing change in emphasis are widespread, the most obvious being that we are now more interested in the musical instrument as a collection of contrasting sounds as opposed to a source of sounds which are heard as an unvarying function of pitch change. '... the new approach to timbres as objects represents a watershed in music. Sounds, a variety of sounds, all sounds, have become available to music. The management of this vast new vocabulary has become a central interest for musicians.' (p. 16).

Chapter Two looks at the area along the pitch-timbre continuum, firstly examining auditory theory to extract the ideas most useful to musicians, and then expanding them with examples and musical applications. So we learn that a single pitch can be heard either as a pitch or a chord depending on attention and practice; we can direct the listener's attention to aspects of a sound by emphasising the ground between pitch and timbral transformation; pitches participating in a chord can lose their individual identity and fuse into a 'sound mass' (Varèse's 'fused ensemble timbres' are brilliantly analysed here). There are, of course, a lot of 'ifs':

dependence on musical context, relationships amongst component pitches, durations, listener familiarity and questions of acoustic environment.

The 'Timbre and Time' chapter examines the intimacies of a sound's life: attacks, changes in the pseudosteady state as a sound evolves (vibrato and beats for example), 'grain', the effect of speed on the perception of note groupings and timbral contrast, traditional uses of timbre contrast (Berlioz, Mahler, Debussy, Webern, Feldman), and less familiar concepts like 'rustle noise', 'spectral glide' and 'backward masking'. In an 'aesthetic interlude' Erickson, in an isolated tilt at contemporary attitudes, reminds the reader that perception is paramount in music: 'The journals present reams (some of it mere sportswriting) about mosaics, serial organisations, indeterminacy, and so on. Regardless of the newsworthiness of the theory of the day, the hierarchical nature of music is not dependent on aesthetic formulations. Hierarchy will function in any music or in any succession of environmental sounds that attracts our interest, because it is built into the way we perceive.' (p.80).

The remaining three chapters develop more familiar ground. Drones (from Wagner to the didjeridu) possess inherent possibilities of timbral concentration over non-varying pitch. The 'Klangfarbenmelodie' chapter (beware of unnatural parallels in the 'melodie' segment of the term) goes back to where Chapter Two left off, looking at melody nuanced by timbre, the articulation of motives through timbre (Webern), the concept of 'channelling' (the separation of the listener's attention during concurrent events) and the 'trill threshold' (when are two alternating pitches perceived as a trill?), music without motive, and music where pitch is negligible, vague or clouded. In the final chapter the reader is on most familiar territory — so-called 'texture music': masses, clouds, Ligeti, Xenakis, Debussy, Ives and many others. Erickson includes the spatial nature of sound and the acoustic problems of performance in the perception of musical texture, as well as the compositional problems of blending and layering.

I have felt it necessary to summarise much of the content of Erickson's book, since although the ideas separately may not be new, their ensemble is. Every reader will find much he has thought little about, many will find they have not thought at all, and no one who lives in the music of the present or immediate past should avoid reading it. My only regret is that Erickson, as far as I can surmise, does not have a good enough knowledge of French to read and digest Pierre Schaeffer's *Traité des objets musicaux*<sup>1</sup> (or even place it in the otherwise extensive bibliography), which expands much of the material Erickson has gathered, in particular, experiences and experiments in the morphology and typology of sounds and their relationship to perception. Having absorbed both books, one is in a better position to imagine music's future and to appreciate the far-reaching extensions to the low-key unpretentiousness of Erickson's preface to his book: 'I wanted to look closely at how we have used timbre in music, and at our traditional ideas about what we are doing. I hope I have offered no recipes for constructing timbral music. That needs ears and imagination above all. This is more a what-might-be than a how-to-do-it book, for all its emphasis upon practice'.

#### NOTE:

<sup>1</sup> Pierre Schaeffer, *Traité des objets musicaux* (Paris: Editions du Seuil, 1966).